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ABSTRACT

This study was designed to examine questions about the validity and utility of two commonly used predictors of academic success in law school, the Law School Admission Test (LSAT) score and the undergraduate grade point average (UGPA), when the criterion measure is grade point average at the completion of law school (LGPA). The study also examined the multiple correlation of LSAT scores and UGPA with LGPA. Data were examined for individual schools and for six clusters of law schools similar to one another on a variety of school and student body characteristics. A second set of issues examined concerned differential prediction: whether LSAT and UGPA predict cumulative LGPA as accurately for nonwhite students as for white students, and whether there are patterns of over- or underprediction among those groups that are different when cumulative LGPA is the criterion or when first-year LGPA (FYA) is the criterion. Data are from 142 law schools. The major finding is that LSAT score and UGPA in combination are related to cumulative LPA at approximately the same level as they are related to first-year LGPA. A second important finding is that patterns of predictive validity for different ethnic and sex groups do not seem to change regardless of whether the criterion is first-year or cumulative LGPA. However, there is an overall tendency for test scores and undergraduate grades to overpredict law school performance for nonwhite students. Data from the study demonstrate the utility of LSAT scores and UGPAs in the law school admission process beyond the prediction of first-year performance. (Contains 15 tables and 21 references.) (SLD)

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Beyond FYA: Analysis of the Utility of LSAT Scores and UGPA for Predicting Academic Success in Law School

Linda F. Wightman
University of North Carolina at Greensboro

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Executive Summary

This study was designed to examine questions about the validity and utility of two commonly used predictors of academic success in law school, LSAT score and UGPA, when the criterion measure is grade point average at the completion of law school (cumulative LGPA). The study also examines the multiple correlation of LSAT scores and undergraduate grade-point average (UGPA) with cumulative LGPA. The question of interest in these analyses is whether there are differences in the strength of the relationship between the two predictors and cumulative LGPA, on the one hand, and between them and first-year LGPA, on the other. The data are examined for individual schools as well as within six clusters of law schools that are similar to one another on a variety of school and student body characteristics.

A second set of issues examined in the study concerns differential prediction. The study focuses on two questions:

- Do LSAT scores and UGPA predict cumulative LGPA as accurately for nonwhite students as for white students, and for women as for men?

- Are there patterns of over- or under-prediction among those groups that are different when cumulative LGPA is the criterion than those observed when first-year LGPA is the criterion?

Methods. Although the preferred method for addressing the first question would be to estimate separate regression equations for each group of interest and then compare slopes and intercepts and proportion of variance explained to evaluate their similarity, the number of nonwhite students at individual law schools was too small to support this approach. Instead, regression systems were constructed using data for white students and the question of whether the equations predicted the law school performance of nonwhite students equally well was investigated. In a similar fashion, regression systems were constructed using data for men and the question of whether the equations predicted the law school performance equally ell was investigated. The mean resideuals and the correlations between actual and predicted LGPA were used to assess the accuracy of the predictions.

The study is based on longitudinal data collected as part of the *LSAC National Longitudinal Bar Passage Study* (Wightman, 1998). In order to study prediction patterns, differences in the magnitude and direction of residuals were compared for different levels of LGPA within each group of interest. Specifically, each group was divided into quartiles based on predicted LGPA and the magnitudes of the residuals across quartiles within the group were compared. The studied groups included ethnic groups for which there were sufficient data, resulting in separate analyses using data from Asian American, black, other Hispanic, and white law school students, and from women and men.

The data were collected from 142 law schools, those that reported first-year grades and had participation rates in the *LSAC National Longitudinal Bar Passage Study* of at least 20 percent. Only students for whom complete data were available were included in the various analyses, meaning that only students for whom both first-year and cumulative LGPA were available are reflected in the analyses. Because other data about students for whom cumulative LGPA were missing suggested that these students were not missing at random, LGPA scores were standardized—and the results reported—in two different ways. One method was to standardize using first-year LGPAs for all students who earned first-year grades, separately for each school, allowing comparisons between students who graduated and those who did not. The second was to standardize using grades for only those students who persisted and graduated, to enable direct comparisons between standardized first-year and standardized cumulative LGPAs. Both approaches were included because each provides important information.

All analyses were conducted separately within each law school but, for the most part, the data in this report are summarized by law school cluster. The main reason for using law school cluster as the unit of analysis is to account better for possible differences in the meaning of law school grades among students who attend different law schools. It is also the case, however, that when data are examined within cluster rather than by individual law school, the sample size increases.

Acknowledgments:
Many thanks to ERM Research Assistants Ms. Terry Brumfield and Ms. Vinaya Kelkar for their assistance and support in completing this study. Terry and Vinaya completed the data analyses reported herein and also prepared the data tables and figures.

The regression models constructed to assess predictive validity focused on the following questions

- Do the regression equations estimated using data from white students predict law school academic performance for nonwhite students about the same as they predict for white students?
- If they do not, are there identifiable patterns of under- or over-prediction?
- Are the patterns observed between white and nonwhite students when cumulative LGPAs are predicted the same as the patterns observed when first-year LGPAs are predicted?

Results. The descriptive data for the study reflect the variability that exists in ethnic distribution among the different law school clusters. Schools grouped in Cluster 6 are characterized by a high proportion (nearly half) of nonwhite attendees, compared with other clusters, in which white students make up between 80 and 90 percent of the student body. Other differences exist as well, including, by virtue of the fact that selectivity was one of the variables that contributed to the clustering process, average LSAT scores. Within clusters, white students earned the highest test scores, undergraduate grades, and LGPAs, both first-year and cumulative. Moreover, among white students who graduated, average standardized cumulative grades where virtually identical to their average standardized first-year LGPAs. In contrast, a pattern of slightly decreasing law school grades was found among students from other ethnic groups, although the magnitude of the observed differences is small.

The major finding of the study is that LSAT score and UGPA, in combination, were related to cumulative LGPA at approximately the same level as they were related to first-year LGPA. Correlational data comparing the magnitude of the coefficients obtained when cumulative LGPA is the criterion with the magnitude when first-year LGPA is the criterion showed that median correlations between predictors and criterion were virtually the same for each predictor. The predictors included LSAT score alone and in combination with UGPA. The data also show that the median correlation coefficients are fairly consistent across the six law school clusters; only in Cluster 6 were the validity coefficients slightly higher for cumulative LGPA than for first-year LGPA for each predictor.

A second important finding is that the patterns of predictive validity for different ethnic and sex groups do not seem to change regardless of whether the criterion is first-year LGPA or cumulative LGPA. However, there is an overall tendency for test scores and undergraduate grades to over-predict law school performance for nonwhite law school students. The over-prediction was greater when LSAT score was used alone than when it was used in combination with UGPA. And, when used in combination, the two predictors tended to over-predict for nonwhite students with higher predicted LGPAs to a greater extent than it over-predicted for those with lower predicted LGPAs.

The data from the study demonstrate the utility of LSAT scores and UGPAs in the law school admission process beyond the prediction of first-year academic performance in law school, laying to rest a common criticism of their use. The study shows that the predictive power of these measures extends to law school performance as measured by cumulative law school grades. It does not, however, address the prediction of achievements beyond law school. Moreover, the modest size of the correlations suggests that a substantial amount of the variance in outcomes is left unexplained by the two measures. While law school grades are an important outcome in selecting law school students, they are not the only outcome of interest, although they were the only one examined in this study.

Introduction

This study was designed to examine questions about the validity and utility of two commonly used predictors of academic success in law school, LSAT score and UGPA, when the criterion measure goes beyond academic performance in the first year. Specifically, this study looks at the relationship between those predictors and cumulative grade-point average at the completion of law school (cumulative LGPA). Two related research questions are addressed in the analyses that follow. First, the study examines the multiple correlation of LSAT scores and UGPA with cumulative LGPA. The question of interest in those analyses was whether differences in the strength of the relationship would be found when the correlation between the predictors and cumulative LGPA is compared to the correlation between them and first-year LGPA. The data are examined for individual schools as well as within groups of law schools that are most like each other on a variety of school and student body characteristics.

The second set of issues examined in this study is in the area of differential prediction. The study focuses on two questions,

- Do LSAT scores and UGPA predict cumulative LGPA as accurately for nonwhite students as for white students and for women as for men?

- Are there patterns of over- or under-prediction among those groups that are different when cumulative LGPA is the criterion than those observed when first-year LGPA is the criterion?

The preferred method for addressing the first question would be to estimate separate regression equations for each group of interest and then compare the slopes and intercepts as well as the proportion of explained variance to evaluate their similarity. The number of nonwhite students at individual law schools was too small to allow this approach to the problem. The constraints of the data resulted in a somewhat more narrow focus. Regression systems were constructed using data for white students and the question of whether the equations predicted the law school performance of nonwhite students equally well was investigated. Similarly, regression systems were constructed using data for men and the question of whether the equations predicted the law school performance of women equally well was investigated. The mean residuals and the correlations between actual and predicted LGPA were used to assess the accuracy of predictions.

In order to study prediction patterns, differences in the magnitude and the direction of residuals were compared for different levels of LGPA within each studied group. Specifically, each studied group was divided into quartiles based on predicted LGPA and the magnitudes of residuals across quartiles within the group were compared. The studied groups included ethnic groups for which there were sufficient data. Separate analyses were conducted using data from Asian American, black, other Hispanic, and white law school students. Data also were analyzed separately for women and men. The data analyzed in this study were obtained from the longitudinal data collected as part of the *LSAC National Longitudinal Bar Passage Study* (Wightman, 1998).

Background Studies

LSAT scores and undergraduate grade-point average (UGPA) are an integral part of the admission process at most if not all U.S. ABA approved law schools. Both test scores and undergraduate grades have been shown to be correlated with law school academic performance as measured by first-year grade-point average both in research studies (e.g., Linn, Harnish, & Dunbar 1981; Linn & Hastings, 1984; Schrader, 1976; Wightman, 1993) and in annual LSAC Correlation Studies. The correlation studies are offered free of charge by LSAC to member law schools each academic year. These studies provide schools with measures of the strength of the relationship between LSAT scores and undergraduate grades (the predictors), and academic performance by students attending their institution (the criterion). FYA is used as the outcome measure in the correlation studies partly because it is an outcome of interest in the admission process and partly because it is readily available within a short period of time. FYA is also the most commonly used criterion in validity research conducted by other national higher education admission testing programs. For a variety of compelling reasons, legal educators and admission professionals have expressed interest in obtaining information about the utility of these predictors for forecasting academic success in law school beyond the first year. The role of test scores and grades in admission decision making might be different if their relationship to subsequent academic performance were substantially less than their relationship to first-year performance. Such information might be especially relevant to students who are not male or not white.

The number of research studies examining the relationship of test scores and grades with law school academic performance beyond the first year is substantially smaller than the number using FYA as the criterion. This is partly, but not exclusively, a consequence of the difficulty of obtaining the data. Other problems related to studies that use grades beyond the first year are the delay in time until the data are collected before the study can be conducted and the variability in the criteria that is introduced. Variability in the criteria comes from two sources. The courses that contribute to the GPA beyond the first year vary more than those found in the first-year curriculum. Further, the sequence and time frame in which students complete courses that contribute to their LGPA beyond the first year varies from student to student and from school to school.

Earlier studies have been mixed in their findings regarding the utility of test scores and grades for predicting law school academic performance beyond the first year. Some studies showed that the correlation was stronger when first-year LGPA was the criterion than when later grades were considered (Powers, 1981; Lin & Humphreys, 1977). In contrast, Winterbottom, Pitcher, & Miller (1976) reported higher

correlations between LSAT and cumulative LGPA than between LSAT and first-year LGPA. Both Johnson and Olsen (1976) and Carlson and Werts (1976) found the magnitude of the correlations with subsequent grades to be approximately the same as the correlations with first-year grades. The *LSAC National Longitudinal Bar Passage Study* provides data that are both recent and national in scope to examine this question.

Studies that focussed on the question of differential prediction found that LSAT scores alone and in combination with UGPA correlated with first-year LGPA for black, Mexican American, and other Hispanic students as well as or better than they did for white students (Anthony, Reese, & Pashley, in press; Powers, 1977; Schrader & Pitcher, 1976a, 1976b; Wightman & Muller, 1990). These studies also found a tendency for test scores, either alone or in combination with UGPAs, to overpredict first-year LGPAs for those nonwhite applicants. Powers (1981) examined the question of differential prediction when the criterion was second or third year law school grades and concluded that "the overprediction for minority groups is less severe when these subsequent year criteria are predicted" (p. 286). Powers' analyses were based on data aggregated across three classes in order to obtain sufficient numbers of minority students to complete his analyses. Only nine schools were represented in his analyses of Mexican American/white differences, and only 21 schools were represented in the analyses of black/white differences. In contrast, the present study has data from 142 schools, but only for one year. Data analysis methods described below differed from those employed by Powers to accommodate the differences in the data that were available.

Data also are analyzed separately for women and men in order to investigate potential differential prediction between them. Earlier research that focussed on first-year LGPA (Harris, Roussos, & Pashley, in press; Wightman, 1996) did not find evidence of differential prediction for women in the bar passage study sample. The analyses reported in this study extend that work to examine the same relationships when final cumulative LGPA is the criterion.

Methods

The Sample

The *LSAC National Longitudinal Bar Passage Study* was the data source for the analyses reported in this study. Only those law schools that reported first-year grades in law school are included in this study. Additionally, in order to meaningfully standardize grades within a school, only schools that had *LSAC National Longitudinal Bar Passage Study* participation rates that exceeded 20 percent are included. Schools that limit law school grade reporting to a dichotomous scale such as pass/fail or credit/no credit are not included. Twenty-one law schools did not meet the inclusion criteria; 142 are included.

There also were participation criteria at the individual student level. Only students for whom complete data were available were included in the various analyses. For example, students who reported neither their sex nor their ethnicity were excluded from analyses that were conducted separately by group. There are 11 study participants who reported sex but not ethnicity. Those participants are included in the comparison of men and women but, by necessity, are excluded from comparisons by ethnic group. Students who are missing either the LSAT score or the UGPA are excluded from the regression analyses, but not from the summary statistics. This is because both test scores and grades were necessary to conduct the regression analyses that are the heart of the results reported herein. Importantly, those participants who earned a first-year LGPA but failed to graduate, and are therefore missing a final cumulative LGPA, are excluded from the regression analyses conducted for this study. Working with identical samples, that is, including only students for whom both first-year LGPA and final cumulative LGPA are available, allows direct comparison of the predictive validity of LSAT scores and UGPA for each of the two criteria. It also allows prediction of grade trends.

There are several explanations for a missing final cumulative LGPA. Those reasons include dropping out of law school, taking a leave of absence and thus not completing law school by the time the data collection for the bar passage study was completed, or transferring to a different school after the completion of the first year. A comparison of LSAT scores, UGPAs, and first-year LGPAs between those for whom final cumulative LGPA was available and those for whom it was not are shown in Table 1. In general, the data suggest that students who did not have final cumulative LGPAs were not missing at random. They have lower LSAT scores, lower UGPAs, and lower first-year LGPAs than those students who persisted through three years of law school do. The difference in standardized first-year LGPAs between those who graduated from the school and those who did not were approximately half a standard deviation in each cluster except Cluster 1.

The Variables

LSAT scores. The LSAT scores used in this study were those reported on the 10 to 48 score scale. For students who took the LSAT more than one time, the arithmetic average of the multiple scores is used in the analyses. If any student took the LSAT more than three times, only the most recent three LSAT scores were averaged.

UGPA. The UGPA used in this study was computed by the Law School Data Assembly Service (LSDAS), using computing options selected for the undergraduate school the student attended. Grades computed by LSDAS are expressed on a scale of 0.00 to 4.33. The UGPAs reported on the LSDAS scale are the ones that were used by law schools in making admission decisions. The LSDAS scale used in this study is also the scale that is used when the LSAC Correlation Studies are conducted.

LGPA. Both first-year LGPAs and cumulative LGPAs were standardized separately so that the mean within each school was equal to zero and the standard deviation was equal to one. LGPAs were standardized in order to achieve a comparable scale of law school grades across institutions. Each LGPA indicates the student's standing relative to the mean at the school that he or she attended.

Although students with missing final cumulative LGPAs were not included in the regression analyses, those students were part of the class when first-year LGPAs were earned. Thus, there were two alternative methods for calculating standardized first-year LGPAs. One method was to standardize using first-year LGPAs for all students who earned first-year grades, separately in each school. Using that method provides information about students' relative standing at the end of the first year and allows comparison of first-year LGPAs between those students who graduated and those who did not. Alternatively, first-year LGPAs could be standardized using only grades for those students who persisted and graduated. Standardized final cumulative LGPAs could only be calculated using data from those study participants who completed law school. If first-year LGPA also is calculated using only those students for whom cumulative LGPAs are available, direct comparison between standardized first-year grades and standardized cumulative grades can be made. Standardized first-year LGPA computed using only those students who persisted will result in a lower value than will standardized first-year LGPA computed using data from all students who earned first-year grades. Because each method provides important information, results from each are reported in relevant tables in this report.

TABLE 1
Mean LSAT scores, UGPAs, and first-year LGPAs by cluster for law school graduates and non-graduates

Law School Cluster	LSAT	UGPA	First-Year LGPA
1			
Graduate			
Number	1,506	1,494	1,511
Mean	41.67	3.50	0.02
Standard Deviation	4.43	0.33	0.98
Nongraduate			
Number	283	285	285
Mean	41.36	3.49	-0.12
Standard Deviation	4.06	0.32	1.07
2			
Graduate			
Number	4,130	4,105	4,145
Mean	38.73	3.33	0.04
Standard Deviation	5.31	0.39	0.95
Nongraduate			
Number	257	259	261
Mean	36.37	3.21	-0.59
Standard Deviation	6.01	0.40	1.44
3			
Graduate			
Number	6,209	6,181	6,233
Mean	37.70	3.31	0.06
Standard Deviation	5.01	0.39	0.94
Nongraduate			
Number	590	583	592
Mean	35.86	3.20	0.64
Standard Deviation	6.84	0.42	1.32
4			
Graduate			
Number	8,180	8,173	8,222
Mean	35.38	3.13	0.07
Standard Deviation	4.70	0.39	0.92
Nongraduate			
Number	1,044	1,041	1,054
Mean	34.24	3.05	-0.55
Standard Deviation	5.39	0.39	1.34
5			
Graduate			
Number	1,832	1,837	1,849
Mean	32.72	3.06	0.07
Standard Deviation	4.26	0.41	0.90
Nongraduate			
Number	276	276	282
Mean	31.27	2.91	-0.49
Standard Deviation	5.07	0.44	1.39
6			
Graduate			
Number	518	517	524
Mean	29.03	2.82	0.17
Standard Deviation	6.31	0.49	0.88
Nongraduate			
Number	113	111	113
Mean	26.20	2.77	-0.80
Standard Deviation	5.97	0.43	1.09

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Analysis Methods

Units of analysis and reporting. All analyses were conducted separately within each law school. However, in most instances, data presented in this report are summarized by law school cluster. The data are reported within cluster rather than across all law schools in order to account better for possible differences in the meaning of law school grades among students attending different law schools. The law school clusters group schools that are most like one another on a set of variables that describe characteristics of the school and its students. Because the clustering variables included estimates of school selectivity as well as the median LSAT scores and UGPAs of the entering classes, standardized LGPA are relatively comparable among schools within the same cluster. For example, an LGPA at the mean of a school in Cluster 1 likely represents approximately the same level of achievement as an LGPA at the mean of other schools in Cluster 1. It is less clear whether an LGPA at the mean of a school in Cluster 1 represents the same level of achievement as an LGPA at the mean of a school in Cluster 4 or Cluster 5. For that reason, data from the six clusters are presented and evaluated separately.

When data are examined within cluster rather than by individual law school, the sample size increases. This is particularly important when the interest is in examining data by ethnic group because, for most law schools, the numbers of nonwhite students tend to be relatively small.

Regression models. As noted previously, a preferred method to examine data for evidence of differential predictive validity among groups would be to estimate separate regression equations for each group. The separate equations would then be compared with respect to slopes, intercepts, and standard errors. The numbers of students from individual institutions who are members of the nonwhite ethnic groups are too small to produce separate regression equation estimates. Even empirical Bayes estimates would be unlikely to produce acceptably stable estimates for the small number of nonwhite students found in most of the law schools included in this study. Even within the constraints of the available data, however, several important and relevant questions can be addressed. These include

- Do the regression equations estimated using data from white students predict law school academic performance for nonwhite students about the same as they predict for white students?
- If they do not, are there identifiable patterns of over- or under-prediction?
- Are the patterns observed between white and nonwhite students when cumulative LGPAs are predicted the same as the patterns observed when first-year LGPAs are predicted?

In order to address these questions, regression models were estimated within each law school using data for white students only. Specifically, for each law school, *i*, the following regression equations were estimated:

$$LGPA_{1st\,yr,i} = \beta_{0i} + \beta_{1i}(LSAT) + \beta_{2i}(UGPA) + error$$

and

$$LGPA_{cum,i} = \beta_{0i} + \beta_{1i}(LSAT) + \beta_{2i}(UGPA) + error$$

where i=1, 2, ...142

When only data from white students were used to obtain estimates of the regression parameters, the 142 equations served as a baseline of the performance of white law school students. The prediction equations thus obtained were used to predict LGPAs for both white and nonwhite students. In order to estimate from these equations how well each school's equations predicted performance for nonwhite students, the difference between the grades actually earned by the student and the grades predicted by the model was calculated. This difference is referred to as the residual and was calculated by subtracting the predicted score from the actual score. Thus, if the actual LGPA is higher than the predicted LGPA, the residual would be positive and we would say that grades were under-predicted. Conversely, if the actual LGPA is lower than was predicted, the residual would be negative and we would say that grades were over-predicted.

The same process was used to examine evidence of possible differences in the predictions between men and women. That is, data from male students were used to obtain estimates of the regression parameters for each of the 142 law schools included in these analyses, and the resulting equations were used to obtain predicted LGPAs for both men and women.

Results

Descriptive Statistics

Descriptive statistics for the sample of students in the law schools included in this study are presented in Tables 2 and 3a through 3f. These data provide information about the ethnic and gender distribution of the students included in the study, and allow comparison of entering credentials and law school academic performance among the various groups.

Table 2 shows the number and percentage of students from the ethnic groups analyzed in this study separately by law school cluster. The table also shows total number of students in the sample from each cluster. Total includes those students who did not report ethnic group and those who are members of ethnic groups that were too small in number of participating students to be included in the data analyzed separately by group. Students from groups not analyzed separately self-reported themselves to be American Indian, Mexican American, Puerto Rican, or "other." The percentages shown in the table for each ethnic group are percentages of the total. That is, they are row percentages. Because the column labeled "Total" includes all graduating students from each cluster who participated in the *LSAC Bar Passage Study*, the sum of the number of participants from the selected ethnic groups is less than the total number of students in the row. For the same reason, the percentages in each row do not sum to 100 for the studied groups.

TABLE 2
Number and percentage of students included in this study by selected ethnic group for each law school cluster

	Ethnic Group				
Law School Cluster	Asian American	Black	Hispanic	White	Total*
1					
Number	90	89	41	1,188	1,491
Percent**	6.04	5.97	2.75	79.68	
2					
Number	275	231	109	3,269	4,091
Percent**	6.72	5.65	2.66	79.91	
3					
Number	202	400	[illegible]	5,206	6,164
Percent**	3.28	6.49	1.85	84.46	
4					
Number	256	325	182	7,094	8,136
Percent**	3.15	3.99	2.24	87.19	
5					
Number	26	64	40	1,649	1,823
Percent**	1.43	3.51	2.19	90.46	
6					
Number	13	237	12	194	513
Percent**	2.53	46.20	2.34	37.82	

* Total exceeds the sum of the selected ethnic groups because it includes students from ethnic groups that were not large enough to be analyzed separately and students who did not report ethnic group.

** Percent is row percentage of the total.

The data in this table demonstrate the variability in ethnic distribution among the different law school clusters. One characteristic of schools grouped into Cluster 6 is the large proportion of nonwhite students who attend. Among the students who attended schools in that cluster, nearly half are black, and approximately one third are white. Among the other clusters, white students make up between 80 and 90 percent of the attending students. The relative proportion of Asian American students is significantly higher in Cluster 1 and 2 schools than in any other. The proportions of black students are lower in Cluster 4 and 5 schools than in any other clusters. Students who identified themselves as "Other Hispanic" are spread more evenly across clusters than are students from the other groups, but they also are the smallest in number in every cluster except 5, where the number of Asian American students is even smaller. The variability in the

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proportion of students from the different ethnic groups contributed to the decision to analyze and report the validity data separately by law school cluster rather than to simply summarize the data across all participating law schools. The number of students in some ethnic groups is so small, even after individual law schools are aggregated into clusters, that they are not included in some of the analyses that are reported in later sections of this report. Specifically, when within cluster groups were divided into quartiles for analyses of patterns of over-prediction, groups that numbered fewer than 30 were not included.

Tables 3a through 3f show means and standard deviations of LSAT, UGPA, first-year LGPA, and cumulative LGPA, by ethnic group and sex group separately for law school clusters 1 through 6, respectively. Note that standardized first-year LGPA is reported both as computed using data from all students in the first year class and using data only from those students who graduated. The data in Tables 3a through 3f highlight differences among law school clusters as well as differences among ethnic groups within clusters. These summary data also illustrate the rationale underlying the data analysis and presentation methods that were selected for this study.

TABLE 3A

Means and standard deviations of LSAT, UGPA, first-year LGPA, and cumulative LGPA, by sex and selected ethnic group for Cluster 1 law schools

Law School Cluster	Ethnic Group	LSAT	UGPA	First Year LGPA[a] All[b]	First Year LGPA[a] Graduating[c]	Cumulative GPA[a]
1	Asian American					
	Number	93	91	94	94	94
	Mean	41.27	3.50	-0.21	-0.23	-0.25
	Standard Deviation	4.21	0.29	0.87	0.89	0.86
	Black					
	Number	92	89	92	92	92
	Mean	34.69	3.14	-1.32	-1.35	-1.39
	Standard Deviation	4.67	0.40	0.90	0.91	0.85
	Hispanic					
	Number	43	41	43	43	43
	Mean	38.86	3.41	-0.30	-0.33	-0.39
	Standard Deviation	4.82	0.32	0.72	0.73	0.88
	White					
	Number	1,193	1,190	1,197	1,197	1,197
	Mean	42.52	3.55	0.19	0.17	0.16
	Standard Deviation	3.74	0.30	0.90	0.92	0.92
	Female					
	Number	671	665	674	674	674
	Mean	41.19	3.50	-0.07	-0.10	-0.06
	Standard Deviation	4.55	0.32	0.99	1.01	1.00
	Male					
	Number	835	829	837	837	837
	Mean	42.06	3.50	0.10	0.08	0.02
	Standard Deviation	4.29	0.33	0.97	0.98	1.00

[a] LGPA was standardized within school to have mean = 0 and standard deviation = 1.

[b] All participating students who earned first-year LGPAs were included in the within-school standardization.

[c] Only students who graduated from law school were included in the within-school standardization. These are the same students who earned a cumulative LGPA.

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TABLE 3B

Means and standard deviations of LSAT, UGPA, first-year LGPA, and cumulative LGPA, by sex and selected ethnic group for Cluster 2 law schools

Law School Cluster	Ethnic Group	LSAT	UGPA	First-Year LGPA* All[b]	First-Year LGPA* Graduating[c]	Cumulative LGPA*
2	Asian American					
	Number	282	275	282	282	282
	Mean	37.27	3.32	-0.35	-0.41	-0.47
	Standard Deviation	5.72	0.40	0.87	0.92	0.95
	Black					
	Number	234	233	236	236	236
	Mean	31.66	3.02	-1.00	-1.08	-1.23
	Standard Deviation	5.74	0.42	0.83	0.85	0.80
	Hispanic					
	Number	110	110	111	111	111
	Mean	35.60	3.22	-0.30	-0.37	-0.35
	Standard Deviation	6.10	0.42	0.92	0.97	0.94
	White					
	Number	3,294	3,279	3,304	3,304	3,304
	Mean	39.66	3.37	0.19	0.16	0.17
	Standard Deviation	4.62	0.37	0.89	0.94	0.92
	Female					
	Number	1,840	1,836	1,848	1,848	1,848
	Mean	38.03	3.37	-0.02	-0.06	-0.03
	Standard Deviation	5.38	0.38	0.95	1.00	1.01
	Male					
	Number	2,288	2,267	2,295	2,295	2,295
	Mean	39.30	3.31	0.08	0.05	0.02
	Standard Deviation	5.19	0.40	0.95	0.99	0.98

[a] LGPA was standardized within school to have mean = 0 and standard deviation = 1.

[b] All participating students who earned first-year LGPAs were included in the within-school standardization.

[c] Only students who graduated from law school were included in the within-school standardization.These are the same students who earned a cumulative LGPA.

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TABLE 3C

Means and standard deviations of LSAT, UGPA, first-year LGPA, and cumulative LGPA, by sex and selected ethnic group for Cluster 3 law schools

Law School Cluster	Ethnic Group	LSAT	UGPA	First-Year LGPA[a] All[b]	First-Year LGPA[a] Graduating[c]	Cumulative LGPA[a]
3	Asian American					
	Number	213	203	216	216	216
	Mean	36.27	3.25	-0.41	-0.47	-0.51
	Standard Deviation	5.34	0.35	0.87	0.91	0.88
	Black					
	Number	403	401	404	404	404
	Mean	29.80	2.88	-1.06	-1.18	-1.22
	Standard Deviation	5.26	0.39	0.81	0.84	0.81
	Hispanic					
	Number	114	114	114	114	114
	Mean	34.11	3.12	-0.54	-0.62	-0.66
	Standard Deviation	5.35	0.40	0.97	1.01	1.01
	White					
	Number	5,236	5,220	5,255	5,255	5,255
	Mean	38.62	3.36	0.21	0.15	0.15
	Standard Deviation	4.21	0.36	0.87	0.93	0.93
	Female					
	Number	2,698	2,695	2,716	2,716	2,716
	Mean	37.08	3.36	0.03	-0.03	-0.01
	Standard Deviation	5.11	0.37	0.94	1.00	0.99
	Male					
	Number	3,510	3,485	3,516	3,516	3,516
	Mean	38.18	3.27	0.08	0.02	-0.01
	Standard Deviation	4.88	0.40	0.93	0.99	1.00

[a] LGPA was standardized within school to have mean = 0 and standard deviation = 1.

[b] All participating students who earned first-year LGPAs were included in the within-school standardization.

[c] Only students who graduated from law school were included in the within-school standardization. These are the same students who earned a cumulative LGPA.

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TABLE 3D

Means and standard deviations of LSAT, UGPA, first-year LGPA, and cumulative LGPA, by sex and selected ethnic group for Cluster 4 law schools

Law School Cluster	Ethnic Group	LSAT	UGPA	First-Year LGPA[a] All[b]	First-Year LGPA[a] Graduating[c]	Cumulative LGPA[a]
4	Asian American					
	Number	277	257	279	279	279
	Mean	33.11	3.02	-0.29	-0.43	-0.49
	Standard Deviation	4.70	0.39	0.80	0.88	0.88
	Black					
	Number	327	326	328	328	328
	Mean	27.91	2.88	-0.99	-1.12	-1.14
	Standard Deviation	5.03	0.42	0.81	0.84	0.77
	Hispanic					
	Number	182	183	183	183	183
	Mean	31.96	3.07	-0.38	-0.48	-0.55
	Standard Deviation	5.56	0.41	0.89	0.95	0.97
	White					
	Number	7,110	7,127	7,145	7,145	7,145
	Mean	36.02	3.15	0.16	0.10	0.10
	Standard Deviation	4.18	0.38	0.89	0.96	0.97
	Female					
	Number	3,666	3,664	3,687	3,687	3,687
	Mean	34.94	3.21	0.05	-0.02	0.02
	Standard Deviation	4.78	0.38	0.93	1.01	1.01
	Male					
	Number	4,513	4,508	4,534	4,534	4,534
	Mean	35.74	3.06	0.09	0.02	-0.02
	Standard Deviation	4.60	0.39	0.91	0.99	0.99

[a] LGPA was standardized within school to have mean = 0 and standard deviation = 1.

[b] All participating students who earned first-year LGPAs were included in the within-school standardization.

[c] Only students who graduated from law school were included in the within-school standardization. These are the same students who earned a cumulative LGPA.

TABLE 3E

Means and standard deviations of LSAT, UGPA, first-year LGPA, and cumulative LGPA, by sex and selected ethnic group for Cluster 5 law schools

Law School Cluster	Ethnic Group	LSAT	UGPA	First-Year LGPA[a] All[b]	First-Year LGPA[a] Graduating[c]	Cumulative LGPA[a]
5	Asian American					
	Number	28	26	29	29	29
	Mean	31.59	2.97	-0.24	-0.33	-0.31
	Standard Deviation	4.73	0.42	0.98	1.06	1.08
	Black					
	Number	64	65	66	66	66
	Mean	25.15	2.75	-0.74	-0.88	-0.97
	Standard Deviation	4.41	0.44	0.92	1.01	0.99
	Hispanic					
	Number	40	40	40	40	40
	Mean	30.72	2.94	-0.02	-0.08	-0.16
	Standard Deviation	3.89	0.34	0.89	0.95	0.96
	White					
	Number	1,656	1,662	1,670	1,670	1,670
	Mean	33.13	3.08	0.13	0.06	0.05
	Standard Deviation	3.93	0.40	0.88	0.98	0.97
	Female					
	Number	678	683	689	689	689
	Mean	32.36	3.15	0.05	-0.03	0.00
	Standard Deviation	4.41	0.40	0.95	1.05	1.02
	Male					
	Number	1,154	1,154	1,160	1,160	1,160
	Mean	32.94	3.00	0.09	0.02	-0.02
	Standard Deviation	4.16	0.41	0.87	0.96	0.97

[a] LGPA was standardized within school to have mean = 0 and standard deviation = 1.

[b] All participating students who earned first-year LGPAs were included in the within-school standardization.

[c] Only students who graduated from law school were included in the within-school standardization. These are the same students who earned a cumulative LGPA.

TABLE 3F

Means and standard deviations of LSAT, UGPA, first-year LGPA, and cumulative LGPA, by sex and selected ethnic group for Cluster 6 law schools

Law School Cluster	Ethnic Group	LSAT	UGPA	First-Year LGPA[a] All[b]	First-Year LGPA[a] Graduating[c]	Cumulative LGPA[a]
6	Asian American					
	Number	14	13	14	14	14
	Mean	28.23	2.56	0.09	-0.14	-0.17
	Standard Deviation	3.60	0.38	0.53	0.62	0.48
	Black					
	Number	240	241	244	244	244
	Mean	26.36	2.74	-0.02	-0.24	-0.27
	Standard Deviation	5.65	0.45	0.84	0.95	0.94
	Hispanic					
	Number	12	12	12	12	12
	Mean	28.00	2.89	0.18	0.00	-0.31
	Standard Deviation	4.29	0.42	0.50	0.64	0.56
	White					
	Number	195	194	197	197	197
	Mean	32.82	2.93	0.51	0.42	0.49
	Standard Deviation	5.72	0.52	0.87	0.97	0.93
	Female					
	Number	261	260	263	263	263
	Mean	29.07	2.94	0.22	0.06	0.07
	Standard Deviation	6.52	0.49	0.88	0.97	1.00
	Male					
	Number	257	257	261	261	261
	Mean	28.98	2.69	0.13	-0.06	-0.08
	Standard Deviation	6.10	0.44	0.89	1.02	0.99

[a] LGPA was standardized within school to have mean = 0 and standard deviation = 1.

[b] All participating students who earned first-year LGPAs were included in the within-school standardization.

[c] Only students who graduated from law school were included in the within-school standardization. These are the same students who earned a cumulative LGPA.

The data in these tables show that the values of LSAT scores and UGPAs differ across the different clusters, consistent with the models upon which the clusters were generated. The data also show that regardless of cluster, white students earned the highest within-cluster test scores and undergraduate grades. White students earned higher law school grades than the nonwhite groups examined in this study, regardless of whether first-year grades or final cumulative grades are considered.

First-year LGPAs computed using data only from those students who graduated from the school at which the first-years grades were earned allow comparison of trends in grades. That is, mean first-year LGPAs for graduating students and cumulative LGPAs were calculated using exactly the same students. In contrast, the standardized first-year LGPA means using all first-year students are different in value because the grades of students who did not persist are included. Law school grades were standardized within law school and show student standing relative to the class means. As a consequence, when lower scoring students are excluded from the calculation, higher achieving students are located at the class mean, and the standardized scores provide information relative to that mean. For example, in Table 3A, the mean standardized first-year LGPA for Asian American students is -0.21 relative to all students who earned first year grades, but -0.23 relative only to those who completed law school. Similarly, the mean for white students is +0.19 among all students, and +0.17 when the sample includes only those who graduated.

Among white students who graduated, the average standardized cumulative grades were virtually identical to the average standardized first-year LGPAs. For example, among those white students who graduated from Cluster 1 schools, the average first-year LGPA was .17 standard deviations above the mean. When they graduated, their average cumulative LGPA was .16 standard deviations above the mean. The largest change is found in Table 3F, showing that among white students who graduated from Cluster 6 schools, their average LGPA increased from .42 standard deviations above the mean at the end of the first year to .49 standard deviations above the mean at the completion of law school. These data suggest that for white students, cumulative law school academic performance, as measured by grades, remained relatively unchanged from first-year academic performance.

In contrast, with few exceptions, a pattern of slightly decreasing law school grades was found among students from other ethnic groups. For example, average grades for Asian American students in Cluster 1 schools were 0.23 standard deviations below the mean at the end of the first year of law school and 0.25 below at the time of graduation. Similarly, black and other Hispanic students at those schools declined from 1.35 standard deviations below the mean to 1.39 standard deviations below and 0.33 standard deviations below the mean to 0.39 standard deviations below, respectively. The magnitude of the observed differences is very small, but it is important to remember that first-year LGPA is included in the cumulative LGPA. If second and third year grades were available separately, as they were in the Powers study, we would expect the observed difference to be slightly larger. More importantly, the grades obtained from *the LSAC Bar Passage Database* show a trend different from that reported by Powers. Specifically, Powers reported that across 23 schools included in his study, grades for black and Chicano students tended to improve slightly from first to third year of law school. In contrast, the data in this study show grades to be essentially unchanged or slightly declining among nonwhite students.

Tables 3A through 3F also include data reported separately for women and men. Overall, men tended to earn slightly higher LSAT scores than women and women tended to earn slightly higher UGPAs than men. These latter differences are not statistically significant, but the trend is fairly consistent across the six law school clusters. The male/female comparison data also show small and not statistically significant differences between women and men in first-year grades. Specifically, on average, women had slightly lower first-year grades than men in every cluster except Cluster 6, where men had slightly lower grades than women. Notice that men also had slightly lower LSAT scores than did women in Cluster 6. Women also showed a slight, but not significant trend toward increased grades between first year and cumulative LGPAs. These differences may be partially attributable to the differences in the proportion of nonwhite students between women and men. (See Wightman, 1996 for a more general treatment of male/female differences in first-year law school performance.)

Validity Data Estimated from Total Group Information

Correlation data were examined in order to compare the magnitude of the coefficients obtained when cumulative LGPA is the criterion with the magnitude when first-year LGPA is the criterion.

Table 4 reports the median validity coefficients for LSAT, UGPA, and LSAT/UGPA combined first when first-year LGPA is the criterion and then when cumulative LGPA is the criterion. The median coefficients are presented separately by law school cluster. These data show that LSAT alone tended to be a better predictor than UGPA alone, and that LSAT and UGPA combined predicted better than either alone. This pattern is observed across all six clusters and is consistent with previous research on this topic (e.g., Anthony, Duffy, & Reese, in press; Anthony & Harris, 1999; Wightman, 1993). The data in Table 4 also show that the pattern is observed regardless of whether first-year LGPA or cumulative UGPA is used as the criterion.

A major objective of this study was to determine whether LSAT either alone or in combination with UGPA predicted final cumulative LGPA differently from the prediction for those variables that is reported for first-year LGPA. The data revealed that the median correlations between the predictors and the criterion were virtually the same for each predictor, within each cluster, when cumulative LGPA was the criterion as when first-year LGPA was the criterion. The data also show that the median correlations coefficients are fairly consistent across the six law school clusters, suggesting that the conclusions about the predictive power of these variables generalize across the majority of U.S. law schools. Only in Cluster 6 were the validity coefficients slightly higher for cumulative LGPA than for first-year LGPA for each predictor.

Box and whisker plots, presented in Figures 1 and 2, provide a graphical illustration of the distribution of the validity coefficients obtained for individual schools within each cluster. The multiple correlation coefficients, based on LSAT and UGPA combined, are represented in the figures. Figure 1 illustrates the distribution of multiple correlation coefficients when first-year LGPA is the criterion; Figure 2 shows them when cumulative LGPA is the criterion.

TABLE 4
Median validity coefficients for predicting first-year LGPA and cumulative LGPA separately by law school cluster

Law School Cluster	Predictor	Criterion: First-year LGPA	Criterion: Cumulative LGPA
1	LSAT alone	0.43	0.43
	UGPA alone	0.30	0.30
	LSAT & UGPA	0.49	0.48
2	LSAT alone	0.41	0.41
	UGPA alone	0.22	0.26
	LSAT & UGPA	0.48	0.49
3	LSAT alone	0.44	0.43
	UGPA alone	0.29	0.33
	LSAT & UGPA	0.54	0.53
4	LSAT alone	0.38	0.37
	UGPA alone	0.22	0.28
	LSAT & UGPA	0.44	0.47
5	LSAT alone	0.36	0.37
	UGPA alone	0.20	0.22
	LSAT & UGPA	0.45	0.44
6	LSAT alone	0.40	0.45
	UGPA alone	0.29	0.30
	LSAT & UGPA	0.52	0.59

The "box" of the box-and-whisker plots identifies the location of the central 50 percent of the distribution. That is, the lower edge of the box identifies the 25th percentile of the distribution of correlation coefficients and the upper edge the 75th percentile. The line through the box that is anchored by "*"s locates the median value, while the "+" locates the mean. When the distributions are skewed, the mean departs from the median and moves in the direction of the skew. So, for example, the distribution of correlation coefficients when first year grades were the criterion was slightly positively skewed among Cluster 1 and Cluster 4 schools and slightly negatively skewed among Cluster 5 and Cluster 6 schools. The longer the box, the more variable the distribution. For example, Figure 1 shows that the central 50 percent of the correlation coefficients among Cluster 2 schools are very similar, ranging from .44 to .50. The coefficients are most variable among Cluster 6 schools, where their values range from .35 to .60. The vertical lines extending from each box (the "whiskers") define the endpoints of the data, or extend to a maximum length of 1.5 times the length of the box (i.e., the central 50 percent of the distribution), which ever comes first. Values more extreme than the allowable range of the whiskers are considered outliers and are represented with a "0".

The six plots in each of the figures allow comparison both within and across law school clusters. These comparisons demonstrate that the magnitudes of the obtained correlation coefficients are fairly consistent among law schools both within and across clusters. Figures 1 and 2, taken together, allow comparison between the two criteria. These figures reveal remarkable consistency, regardless of the criteria that were used in the calculations. These findings are consistent with those reported by Johnson and Olsen (1976) and Carlson and Werts (1976).

A concern about analyzing data only from those participants for whom both first-year LGPAs and final cumulative LGPAs were available was the impact on the magnitude of the correlation coefficients of reducing the variance as a consequence of eliminating some proportion of the lower scoring and lower achieving students. The median validity coefficients obtained for this study, as shown in Table 4, range between .44 and .59 for cumulative LGPA and between .44 and .54 for first-year LGPA, across the six clusters. The mean of the coefficients across all of the schools for first-year LGPA is .40 for LSAT alone, .25 for UGPA alone, and .48 for LSAT and UGPA combined. Wightman (1993) reported average validity coefficients of 0.41 for LSAT alone, 0.26 for UGPA alone, and 0.49 for LSAT and UGPA combined for law schools participating in the LSAC Correlation Studies between 1990 and 1992.[1] Comparing the magnitude of these correlations suggests that the steps undertaken to assure comparability between first-year LGPA and cumulative LGPA did not have a substantive impact on the estimates of the predictive validity of LSAT score and UGPA with respect to first-year LGPA.

1 Please note that essentially identical correlations were observed in later replications of this report by Anthony & Harris (1999) and Anthony, Duffy, & Reese (in press).

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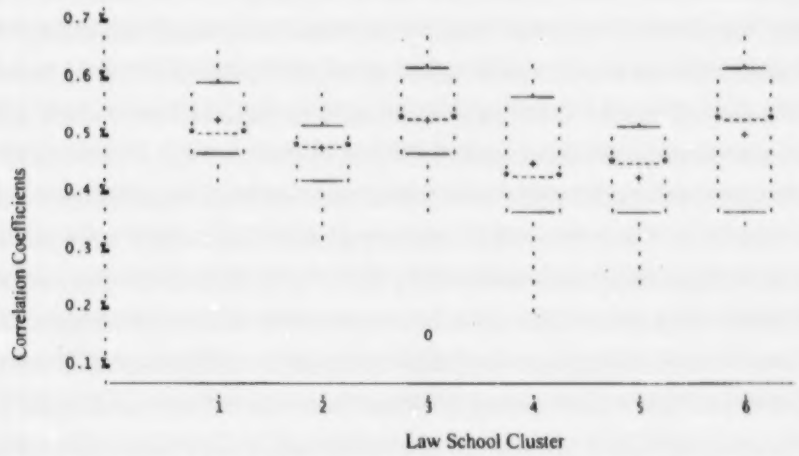

FIGURE 1. *Figure distribution of correlation coefficients for schools within clusters when first year LGPA was the criterion*

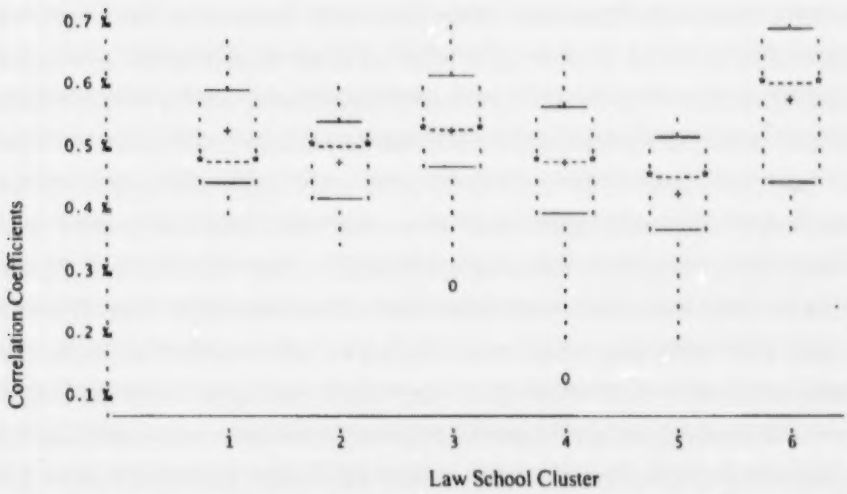

FIGURE 2. *Figure distribution of correlation coefficients for schools within clusters when cumulative LGPA was the criterion*

In addition to averaging data across schools, the magnitudes of the correlation coefficients resulting from each criterion (first-year LGPA and cumulative LGPA) were compared within each school separately for each predictor or predictor combination. Table 5 shows a summary of those comparisons for each cluster. Specifically, this table shows the number of schools for which the validity coefficient is larger when first-year LGPA is used as the criterion and the number for which it is larger when cumulative LGPA is used as the criterion. A statistical sign test was used to evaluate the significance of the observed differences. The data in Table 5 show that when LSAT score was used alone or in combination with UGPA, there was no consistent pattern in the direction of the validity coefficients. That is, when LSAT alone was used as a predictor, the validity coefficient for first-year LGPA exceeded the coefficients for cumulative LGPA for a greater number of schools in Clusters 1, 3, 4, and 5. In Clusters 2 and 6, the opposite pattern was observed. When LSAT and

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UGPA were used in combination, the validity coefficient for first-year LGPA exceeded the coefficients for cumulative LGPA for a greater number of schools in Cluster 5. In Clusters 2, 3, 4 and 6, the opposite pattern was observed. Regardless, none of the observed differences were statistically significant.

TABLE 5
Summary comparison of the magnitude of the validity coefficients within law schools by cluster

Law School Cluster	Predictor	Number of schools in which validity coefficient was larger for: First-year LGPA as Criterion	Cumulative LGPA as Criterion	Significance[a]
1	LSAT alone	8	2	
	UGPA alone	2	8	
	LSAT & UGPA	5	5	
2	LSAT alone	5	9	
	UGPA alone	2	12	*
	LSAT & UGPA	3	11	
3	LSAT alone	28	20	
	UGPA alone	13	35	**
	LSAT & UGPA	21	27	
4	LSAT alone	26	21	
	UGPA alone	12	35	**
	LSAT & UGPA	22	25	
5	LSAT alone	12	5	
	UGPA alone	4	13	
	LSAT & UGPA	9	8	
6	LSAT alone	2	4	
	UGPA alone	3	3	
	LSAT & UGPA	2	4	

a Significance based on statistical sign test

* $p < .05$

** $p < .01$

When UGPA was used as the predictor, the validity coefficient showed a tendency to be larger when cumulative LGPA was the criterion than when first-year LGPA was the criterion consistently across clusters. Even so, the difference was statistically significant for only half the clusters (Clusters 2, 3, and 4). The relationships detected using the sign test are only partially consistent with the results reported by Powers in his 1981 study. That is, Powers found that the LSAT tended to be more highly correlated with first-year grades than with later grades. That pattern was not observed in the data analyzed for this study. Powers also found that UGPA tended to be more highly correlated with third-year grades than with first-year grades. The same pattern was observed in the data used in this study.

Median standardized regression weights for LSAT, UGPA, and LSAT and UGPA used in combination are shown for each law school cluster for each criterion in Table 6. Note that when LSAT or UGPA are used alone as predictors, the median validity coefficient and the standardized regression weight are the same. Thus, the information is redundant with that reported in Table 4. It is repeated in this table for ease of comparison with the results from using the two predictors in combination. These data show a tendency for LSAT scores to have essentially the same weights when used alone or in combination with UGPA for predicting cumulative LGPA as for predicting first-year LGPA. The largest difference is observed in Cluster 6, where the LSAT weight is higher when cum LGPA is predicted regardless of whether it is used alone or in combination with UGPA. This outcome is contrary to Powers' finding that LSAT score when used in combination with UGPA made a greater contribution than UGPA to predicting first-year grades for both black and white students and that the relative contribution of LSAT became smaller over the three years.

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TABLE 6
Median standardized regression weights by cluster for LSAT, UGPA, and LSAT and UGPA combined

Law School Cluster		Criterion: First-Year LGPA Predictor BLSAT	First-Year LGPA Predictor BUGPA	Cumulative LGPA Predictor BLSAT	Cumulative LGPA Predictor BUGPA
1	LSAT alone	0.43		0.43	
	UGPA alone		0.30		0.30
	LSAT + UGPA	0.40	0.24	0.40	0.25
2	**LSAT alone**	**0.41**		**0.41**	
	UGPA alone		**0.22**		**0.26**
	LSAT + UGPA	**0.41**	**0.23**	**0.41**	**0.27**
3	LSAT alone	0.44		0.43	
	UGPA alone		0.29		0.33
	LSAT + UGPA	0.45	0.28	0.43	0.30
4	**LSAT alone**	**0.38**		**0.37**	
	UGPA alone		**0.22**		**0.28**
	LSAT + UGPA	**0.41**	**0.26**	**0.40**	**0.29**
5	LSAT alone	0.36		0.37	
	UGPA alone		0.20		0.22
	LSAT + UGPA	0.36	0.23	0.35	0.25
6	**LSAT alone**	**0.40**		**0.45**	
	UGPA alone		**0.29**		**0.30**
	LSAT + UGPA	**0.40**	**0.31**	**0.48**	**0.32**

Comparison of Predictive Validity Among Different Groups

This section summarizes first-year and cumulative actual LGPA data, first-year and cumulative predicted LGPA, and residuals for selected ethnic and sex groups. The regression models were estimated separately for each law school using data only for the control groups (i.e., only male students or only white students). Results from several analyses are presented in this section to evaluate the research questions about differential prediction and group differences posed earlier.

Comparisons among selected ethnic groups using LSAT score and UGPA combined as predictors. Table 7 shows means and standard deviations of the actual LGPA, the predicted LGPA, and the residuals for Asian American, black, other Hispanic, and white students separately by law school cluster. Both LSAT and UGPA were used in combination to predict first-year LGPA (columns 1through 4) and cumulative LGPA (columns 5 through 8).

Regression systems were built using data only from white students. White students served as a control group for this study because there were sufficient numbers of white students in each school to estimate the parameters for the prediction equations. By definition of the regression model used, the mean of the residuals for white students is zero. If the equations that are estimated from white student data are essentially the same equations that would have been estimated for nonwhite students, then the distribution of the residuals for each group of nonwhite students should center on zero. If the residuals are positive, the data would suggest that the students in that group earned higher than expected grades; negative residual means would indicate lower than expected means.

TABLE 7

Means and standard deviations of the actual LGPA, the predicted LGPA, and residuals for selected ethnic groups when both LSAT and UGPA were used as predictors

	First-Year LGPA				Cumulative LGPA			
	Asian American	Black	Hispanic	White	Asian American	Black	Hispanic	White
Cluster								
Means								
Actual LGPA	-0.20	-1.37	-0.36	0.16	-0.24	-1.42	-0.39	0.16
Predicted LGPA	0.00	-0.79	-0.28	0.16	-0.01	-0.79	-0.23	0.16
Residual**	-0.19	-0.58	-0.09	0.00	-0.23	-0.63	-0.16	0.00
Standard Deviations								
Actual LGPA	0.90	0.90	0.71	0.92	0.86	0.83	0.87	0.91
Predicted LGPA	0.29	0.55	0.50	0.34	0.28	0.51	0.44	0.32
Residual	0.87	0.96	0.73	0.85	0.82	0.87	0.88	0.85
Cluster 2								
Means								
Actual LGPA	-0.39	-1.08	-0.37	0.15	-0.45	-1.22	-0.36	0.17
Predicted LGPA	-0.07	-0.75	-0.22	0.15	-0.04	-0.73	-0.20	0.17
Residual**	-0.32	-0.32	-0.15	0.00	-0.41	-0.48	-0.16	0.00
Standard Deviations								
Actual LGPA	0.92	0.86	0.98	0.94	0.95	0.81	0.94	0.92
Predicted LGPA	0.36	0.45	0.52	0.32	0.35	0.46	0.50	0.31
Residual	0.81	0.86	0.80	0.88	0.83	0.82	0.78	0.86
Cluster 3								
Means								
Actual LGPA	-0.45	-1.19	-0.62	0.15	-0.50	-1.22	-0.66	0.15
Predicted LGPA	-0.17	-0.84	-0.39	0.15	-0.15	-0.85	-0.36	0.15
Residual	-0.28	-0.35	-0.23	0.00	-0.35	-0.37	-0.30	0.00
Standard Deviations								
Actual LGPA	0.89	0.85	1.01	0.93	0.87	0.81	1.01	0.93
Predicted LGPA	0.41	0.56	0.59	0.36	0.40	0.55	0.56	0.37
Residual	0.85	0.85	0.84	0.85	0.82	0.83	0.80	0.85

(continued)

TABLE 7 (continued)

	First-Year LGPA				Cumulative LGPA			
	Asian American	Black	Hispanic	White	Asian American	Black	Hispanic	White
Cluster 4								
Means								
Actual LGPA	-0.43	-1.12	-0.49	0.10	-0.50	-1.13	-0.56	0.10
Predicted LGPA	-0.27	-0.77	-0.30	0.10	-0.26	-0.77	-0.30	0.10
Residual**	-0.17	-0.35	-0.19	0.00	-0.24	-0.36	-0.26	0.00
Standard Deviations								
Actual LGPA	0.89	0.84	0.94	0.96	0.87	0.77	0.97	0.97
Predicted LGPA	0.45	0.52	0.55	0.39	0.46	0.53	0.57	0.40
Residual	0.83	0.80	0.84	0.88	0.80	0.75	0.89	0.88
Cluster 5								
Means								
Actual LGPA	*	-0.87	-0.07	0.06	*	-0.94	-0.16	0.05
Predicted LGPA	*	-0.95	-0.10	0.06	*	-0.85	0.01	0.05
Residual**	*	0.08	0.03	0.00	*	-0.10	-0.17	0.00
Standard Deviations								
Actual LGPA	*	1.02	0.96	0.98	*	1.00	0.96	0.97
Predicted LGPA	*	0.70	0.62	0.38	*	0.58	0.51	0.37
Residual	*	1.03	0.95	0.90	*	0.88	0.87	0.89
Cluster 6								
Means								
Actual LGPA	*	-0.24	*	0.41	*	-0.26	*	0.49
Predicted LGPA	*	-0.02	*	0.41	*	0.19	*	0.49
Residual**	*	-0.22	*	0.00	*	-0.45	*	0.00
Standard Deviations								
Actual LGPA	*	0.95	*	0.98	*	0.95	*	0.92
Predicted LGPA	*	0.48	*	0.44	*	0.48	*	0.41
Residual	*	0.90	*	0.87	*	0.85	*	0.82

* Represents within cluster ethnic group size < 30.

** Residuals may differ from the difference calculated from actual and predicted numbers presented in this table with two decimal places due to rounding.

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The mean residuals were negative for each nonwhite group in every cluster except Cluster 5. In Cluster 5, the mean residuals for black and for other Hispanic students were near zero. Except for those two groups in Cluster 5, the mean residuals, when measured against the size of the standard deviations of the distribution of residuals, suggest that law school grades for nonwhite students were over-predicted by the regression equations built from data from white students. Powers (1981) also reported this pattern of over-prediction. Powers had sufficient data to estimate separate regression equations for black and Chicano students. When he did, he found consistently significant differences in intercept values between white and nonwhite students. A similar conclusion, i.e., significant intercept differences, is suggested by the data in this study. The mean residuals were slightly but consistently larger when the criterion was cumulative LGPA, as compared to the means when first-year LGPA was the criterion. That is, cumulative LGPA was over-predicted to a greater extent than was first-year LGPA for nonwhite students. In Cluster 5, the residual means for black and other Hispanic students became negative when cumulative LGPA was the criterion, but they remain among the smallest of the observed residuals.

The correlations between predicted LGPA and actual LGPA are shown by law school cluster for Asian American, black, other Hispanic, and white students for each of the criterion variables in Table 8. The correlations were obtained within cluster after pooling data across schools. There is not a consistent pattern of differences between ethnic groups across clusters. There is some tendency for the correlations to be slightly smaller for black students than for white students, but the differences are not large and the pattern is not consistent. For example, when first-year LGPA is the criterion, the correlation between actual and predicted LGPA is lower for blacks than for whites in every cluster except 4, where they are equal. These data would suggest that UGPA and LSAT score did not predict first-year LGPA as well for these black students as they did for the white students. When cumulative LGPA is the criterion, the observed difference in correlation for these two groups diminishes or disappears in several clusters. It actually reverses direction in Cluster 5. Consistent with data described in earlier tables, these data suggest that the two predictors work approximately the same when they predict cumulative LGPA as when they predict first-year LGPA.

TABLE 8

Correlations, separately by ethnic group, between actual and predicted LGPA when LSAT and UGPA combined were used to predict first-year and cumulative UGPA

	First-Year LGPA				Cumulative LGPA			
Cluster	Asian American	Black	Hispanic	White	Asian American	Black	Hispanic	White
1	0.27	0.19	0.31	0.37	0.32	0.23	0.23	0.35
2	0.48	0.26	0.57	0.34	0.49	0.26	0.57	0.34
3	0.34	0.33	0.50	0.39	0.35	0.31	0.62	0.39
4	0.38	0.40	0.47	0.40	0.40	0.38	0.42	0.42
5	*	0.33	0.34	0.39	*	0.48	0.44	0.38
6	*	0.36	*	0.45	*	0.45	*	0.45

* Represents within cluster ethnic group size < 30.

Finally, detailed analyses of the distributions of the residuals are examined separately for Asian American, black, other Hispanic, and white students both for results based on FYA as the criterion and results based on cumulative LGPA as the criterion. One method for making this comparison is to partition the students into groups based on predicted LGPA. For these data, Asian American, black, other Hispanic, and white students were divided into four groups of approximately equal number, based on the magnitude of the predicted first-year LGPA and the predicted cumulative LGPA. The mean residual for each group is shown for each criterion within each cluster in Table 9. Because the procedure divided the groups into quartiles, the analysis was not completed for groups with less than 30 students in the cluster. Groups with numbers of study participants lower than 30 are noted with "*" in the table. Although not completely consistent across quartiles, these data suggest a relationship between predicted LGPA and residual among nonwhite students. In particular, there is a larger amount of over-prediction among those predicted to be in the highest quartile than among those predicted to be in the lowest quartile. No such pattern is observed in the residuals for white students. The relationship between predicted LGPA and residual is observed within each nonwhite group even though some nonwhite groups earned substantially higher LGPAs than other groups. Specifically, the nonwhite groups whose data are shown in Table 9 differ from one another by as much as three quarters of a standard deviation in the predicted LGPA.

TABLE 9

Mean residuals for selected ethnic groups at different levels of predicted first-year LGPA and cumulative LGPA when both LSAT score and UGPA were used as predictors

		First-Year LGPA				Cumulative LGPA			
Cluster	Group	Asian American	Black	Hispanic	White	Asian American	Black	Hispanic	White
1	Lowest 25% predicted LGPA	0.03	0.14	0.35	0.01	-0.12	-0.05	0.06	0.03
	Second 25% predicted LGPA	-0.38	-0.63	-0.09	-0.03	-0.40	-0.84	-0.13	-0.04
	Third 25% predicted LGPA	-0.25	-0.93	-0.14	0.03	-0.32	-0.88	-0.23	0.04
	Highest 25% predicted LGPA	-0.16	-0.82	-0.39	-0.02	-0.08	-0.74	-0.32	-0.03
2	Lowest 25% predicted LGPA	-0.30	0.01	-0.29	0.04	-0.51	-0.12	-0.40	0.05
	Second 25% predicted LGPA	-0.48	-0.40	0.08	-0.05	-0.55	-0.47	0.12	-0.06
	Third 25% predicted LGPA	-0.31	-0.34	-0.31	0.00	-0.38	-0.58	-0.23	0.00
	Highest 25% predicted LGPA	-0.18	-0.55	-0.06	0.01	-0.20	-0.75	-0.11	0.01
3	Lowest 25% predicted LGPA	-0.09	0.02	-0.11	0.00	-0.19	-0.01	-0.35	0.00
	Second 25% predicted LGPA	-0.37	-0.22	-0.46	0.00	-0.33	-0.24	-0.52	-0.01
	Third 25% predicted LGPA	-0.26	-0.52	-0.20	0.00	-0.37	-0.42	-0.20	0.00
	Highest 25% predicted LGPA	-0.39	-0.67	-0.15	0.00	-0.48	-0.76	-0.13	0.01
4	Lowest 25% predicted LGPA	0.02	0.04	0.01	0.03	-0.05	0.04	0.06	0.03
	Second 25% predicted LGPA	-0.13	-0.42	-0.19	-0.04	-0.25	-0.39	-0.29	-0.01
	Third 25% predicted LGPA	-0.28	-0.47	-0.36	-0.02	-0.33	-0.51	-0.44	-0.04
	Highest 25% predicted LGPA	-0.27	-0.54	-0.23	0.03	0.34	-0.59	-0.38	0.02
5	Lowest 25% predicted LGPA	*	0.70	0.49	-0.01	*	0.43	0.02	0.02
	Second 25% predicted LGPA	*	0.40	0.02	-0.01	*	-0.16	-0.03	-0.05
	Third 25% predicted LGPA	*	-0.40	-0.19	0.00	*	-0.51	-0.44	0.00
	Highest 25% predicted LGPA	*	-0.37	-0.17	0.02	*	-0.14	-0.27	0.03
6	Lowest 25% predicted LGPA	*	0.01	*	0.02	*	-0.26	*	0.03
	Second 25% predicted LGPA	*	-0.17	*	-0.19	*	-0.67	*	-0.14
	Third 25% predicted LGPA	*	-0.42	*	-0.01	*	-0.49	*	0.11
	Highest 25% predicted LGPA	*	-0.30	*	0.17	*	-0.37	*	0.01

* Represents within cluster ethnic group size < 30.

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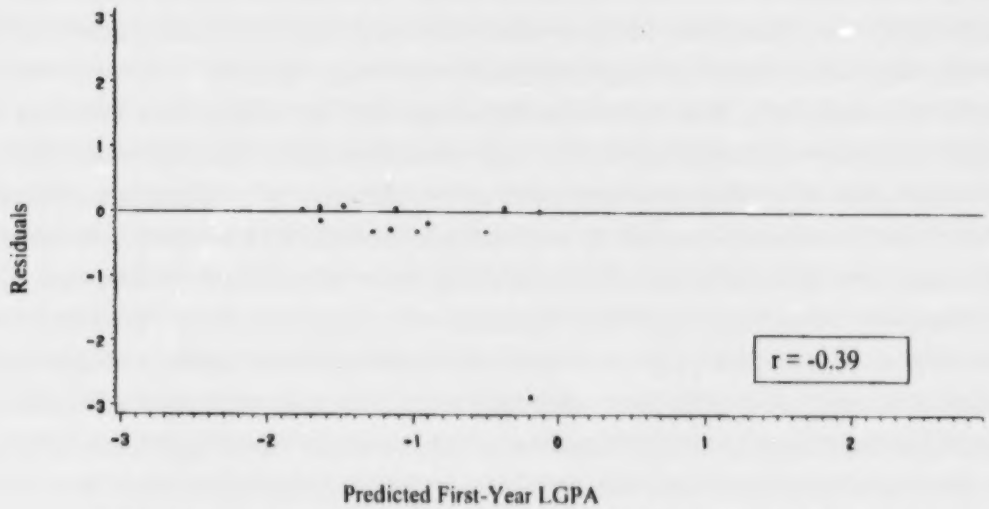

FIGURE 3a. *Predicted first-year LGPA by residuals for black students in Cluster 1*

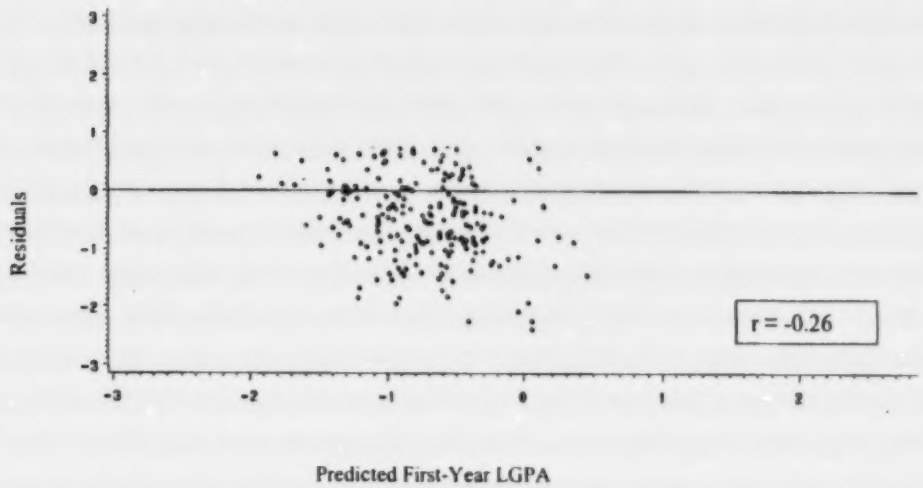

FIGURE 3b. *Predicted first-year LGPA by residuals for black students in Cluster 2*

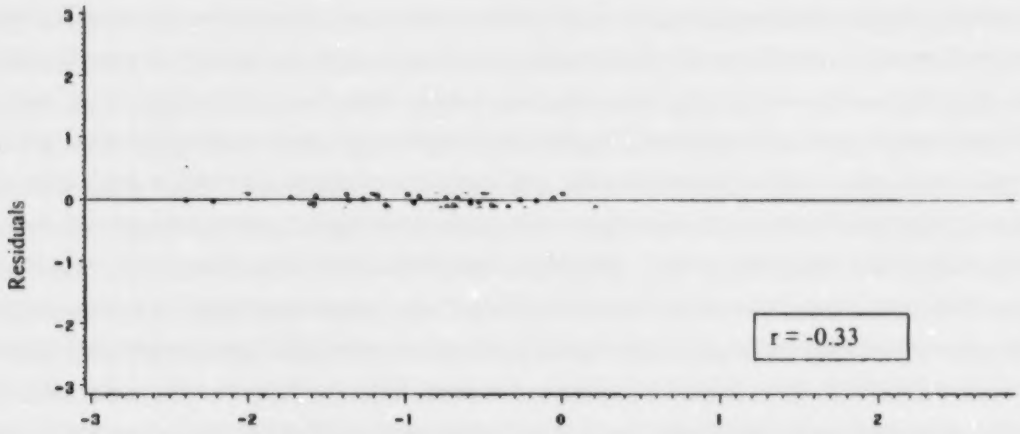

Figure 3c. *Predicted first-year LGPA by residuals for black students in Cluster 3*

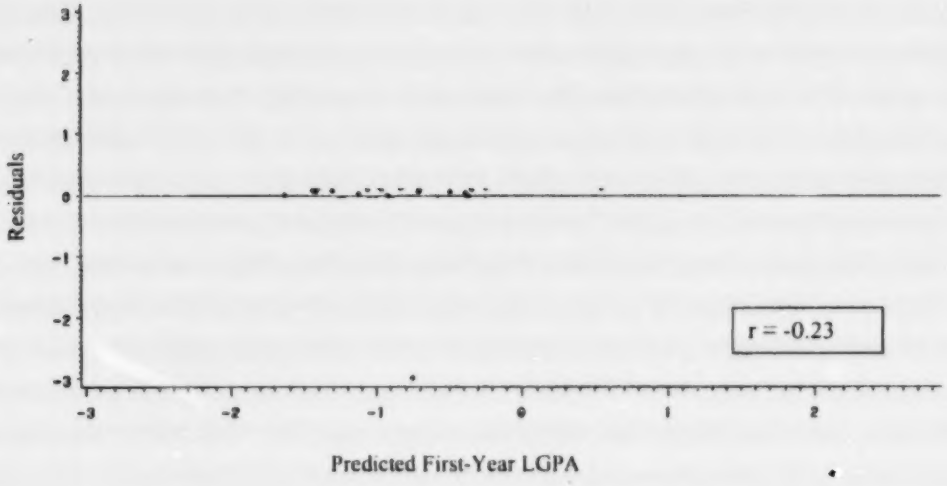

Figure 3d. *Predicted first-year LGPA by residuals for black students in Cluster 4*

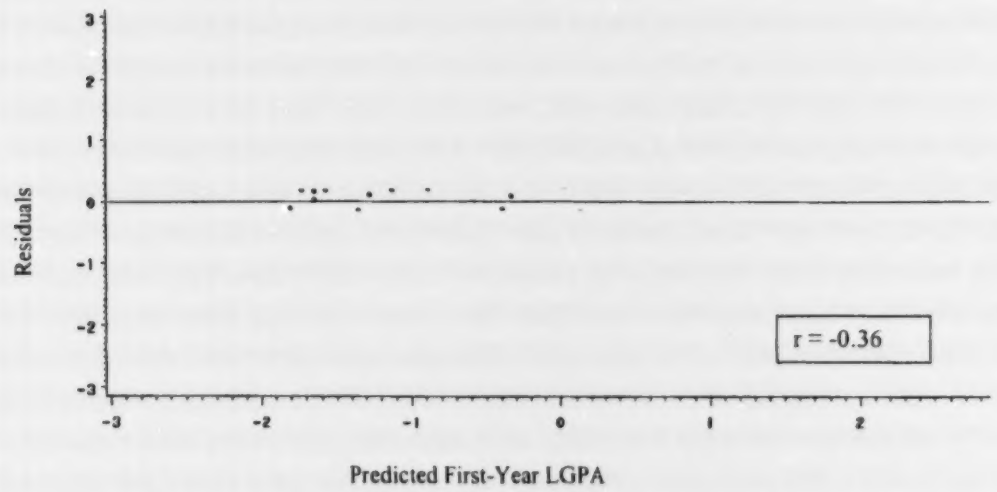

FIGURE 3e. *Predicted first-year LGPA by residuals for black students in Cluster 5*

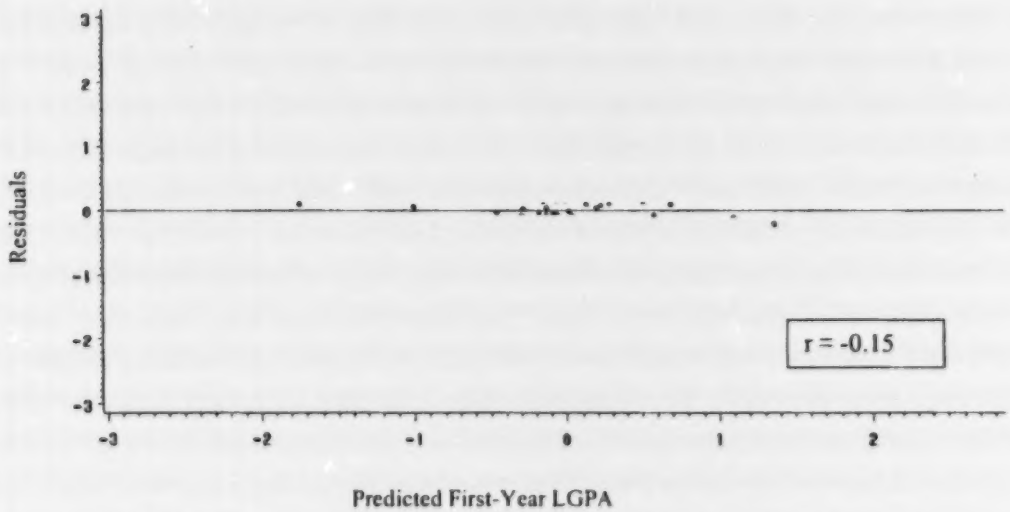

FIGURE 3f. *Predicted first-year LGPA by residuals for black students in Cluster 6*

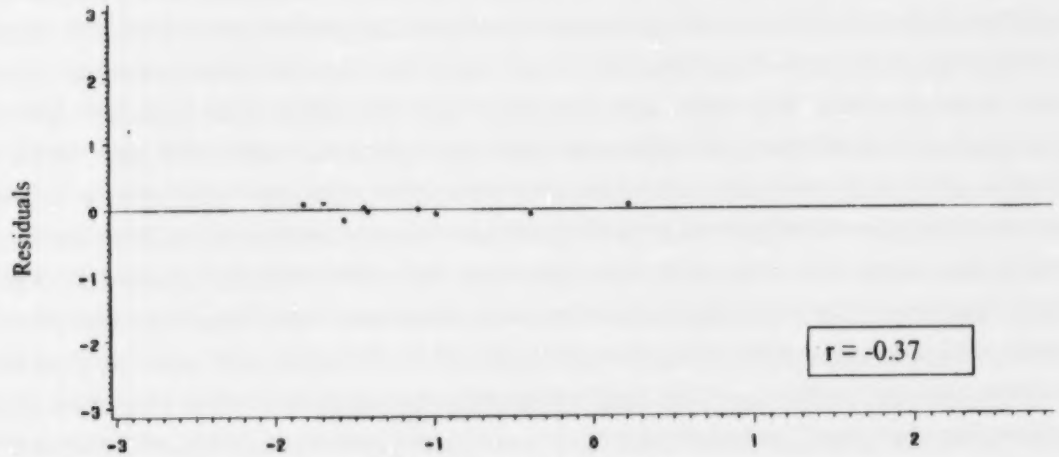

FIGURE 4a. *Predicted cumulative LGPA by residuals for black students in Cluster 1*

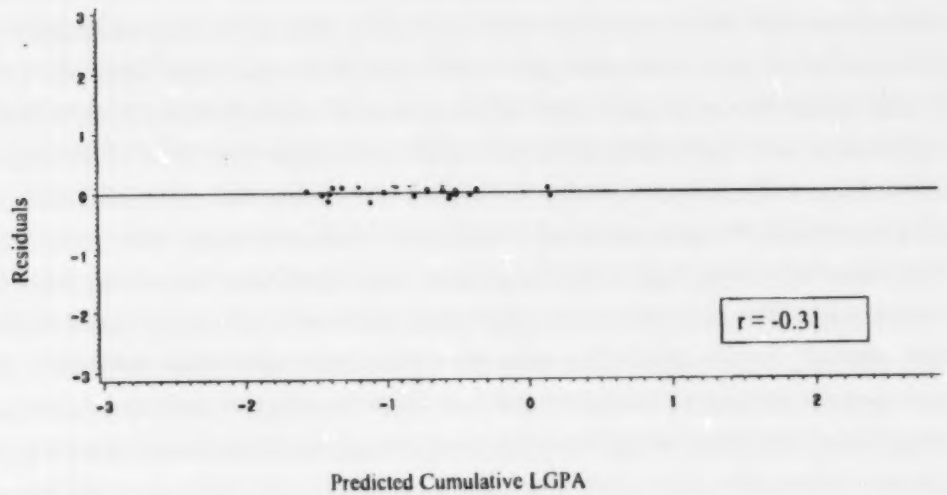

FIGURE 4b. *Predicted cumulative LGPA by residuals for black students in Cluster 2*

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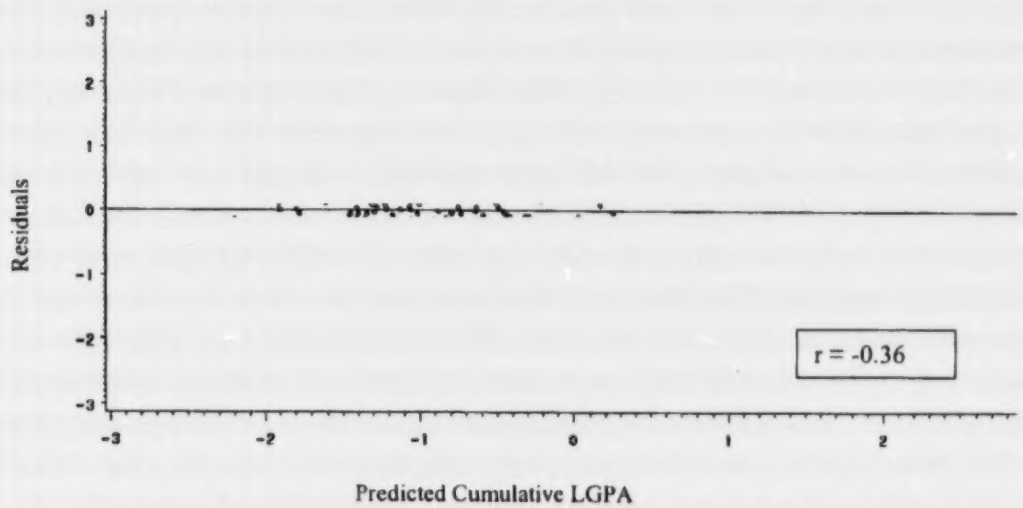

FIGURE 4c. *Predicted cumulative LGPA by residuals for black students in Cluster 3*

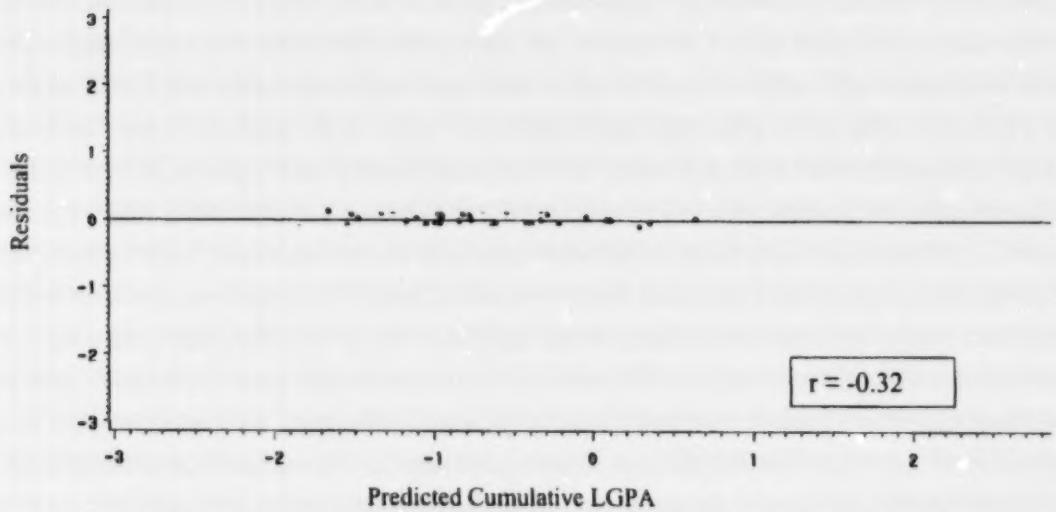

FIGURE 4d. *Predicted cumulative LGPA by residuals for black students in Cluster 4*

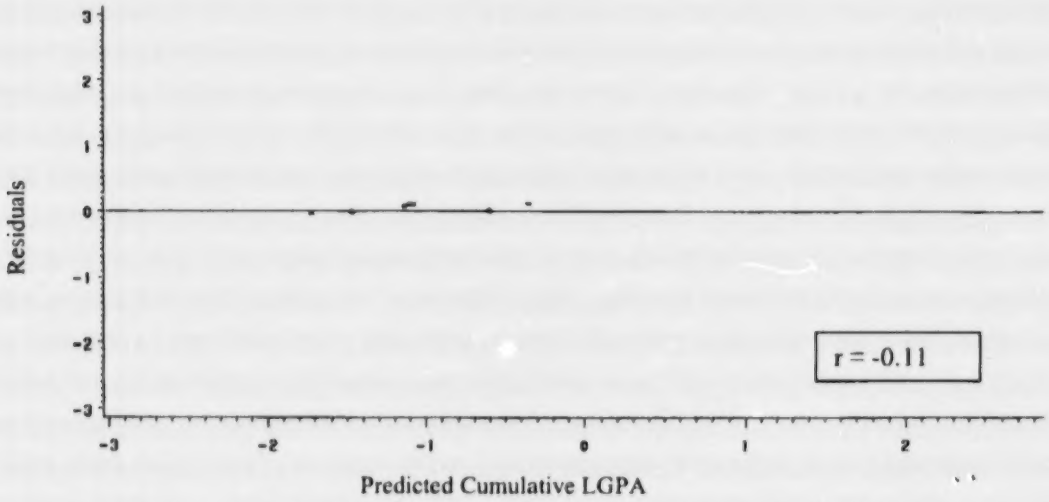

FIGURE 4e. *Predicted cumulative LGPA by residuals for black students in Cluster 5*

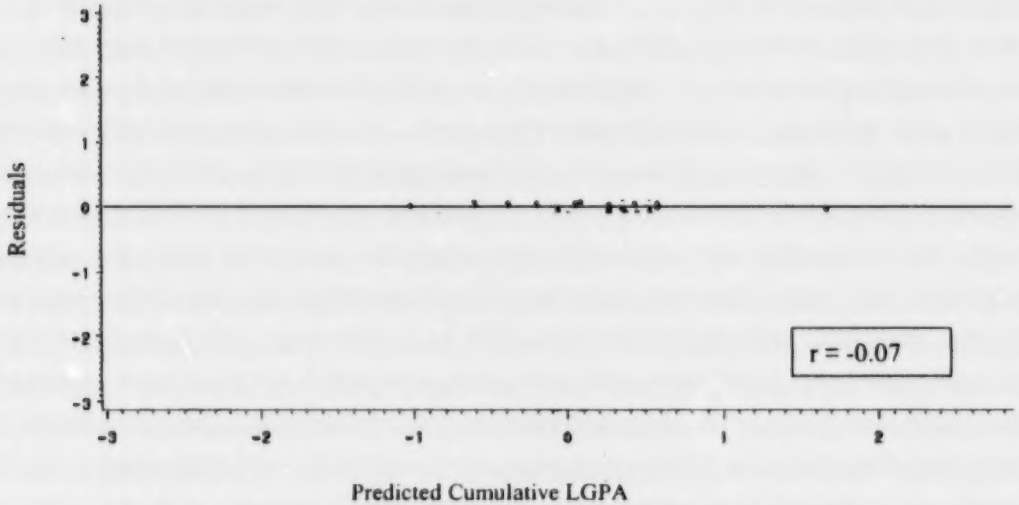

FIGURE 4f. *Predicted cumulative LGPA by residuals for black students in Cluster 6*

An alternative method for examining the relationship between residuals and predicted FYA is to examine complete plots of these data. As an example, the plots of the residuals, shown in Figures 3a – 3f and 4a – 4f, depict the relationship between predicted LGPA and residual for black students in the sample. Separate plots are shown for each cluster. Figure 3 illustrates the relationship when first-year LGPA was the criterion, while Figure 4 represents cumulative LGPA as criterion. The figures are consistent with the summary data reported in Table 9. That is, they exhibit a negative association between predicted LGPA and residual. Figures 3a – 3f illustrate the meaning of the small positive residuals for black students in the lowest 25 percent predicted LGPA group. Students represented by points above the zero residual line earned first year LGPAs that exceeded those predicted by their LSAT scores and UGPAs. The positive residuals are partly a statistical consequence of applying a regression equation developed using data from the white

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students only, who on average had higher LSAT scores and UGPAs. It also may be partly a consequence of the fact that the study participants included in these analyses are those who persisted through graduation from law school. In contrast, lower scoring participants with lower than predicted law school grades may have dropped out of these law schools. The data in Table 1, comparing first-year LGPAs of graduates with those of nongraduates, support this possibility. More importantly, viewed together, Figures 3a – 3f and 4a – 4f again show that the patterns based on cumulative LGPA are consistent with those observed when first-year LGPA was the criterion.

Comparisons among selected ethnic groups using LSAT scores alone as the predictor. Analyses parallel to those reported using LSAT score and UGPA as combined predictors were also completed using LSAT score alone as the predictor. That is, two regression models, using data only from white students, were built separately for each participating law school. LSAT was the only predictor in each model. In one model, first-year LGPA was the criterion. In the other, cumulative LGPA was the criterion. The results from those analyses are presented in Tables 10 through 12. The mean residuals shown in Table 10 are all somewhat larger for nonwhite student groups when LSAT is used alone as the predictor. Overall, the negative residuals tend to be slightly larger when cumulative LGPA is the criterion, suggesting that LSAT scores alone, like LSAT scores in combination with UGPA, over-predict cumulative LGPA to a slightly greater extent than they do first-year LGPA. The standard deviations of the residuals are quite consistent with the standard deviations observed when the two predictors were used in combination. Taken together, these data show that when UGPA was used as a predictor together with LSAT score the amount of over-prediction of both first-year LGPA and cumulative LGPA was reduced.

The correlations between actual and predicted LGPA when LSAT scores are used alone as predictors are shown separately for each criterion in Table 11. As expected, the correlations tended to be lower when only this one predictor was included in the prediction equation. Again, there is not a consistent pattern of differences between ethnic groups across clusters. Moreover, the patterns across the two criteria are similar to those described when both LSAT and UGPA were used as predictors.

TABLE 10

Means and standard deviations of the actual LGPA, the predicted LGPA, and residuals for selected ethnic groups when LSAT alone was used as a predictor

	First-Year LGPA				Cumulative LGPA			
	Asian Am.	Black	Hispanic	White	Asian Am.	Black	Hispanic	White
Cluster 1								
Means								
Actual LGPA	-0.20	-1.37	-0.36	0.16	-0.24	-1.42	-0.39	0.16
Predicted LGPA	0.08	-0.37	-0.16	0.16	0.09	-0.30	-0.11	0.16
Residual	-0.28	-1.01	-0.21	0.00	-0.32	-1.12	-0.28	0.00
Standard Deviations								
Actual LGPA	0.90	0.90	0.71	0.92	0.86	0.83	0.87	0.91
Predicted LGPA	0.25	0.35	0.39	0.26	0.23	0.28	0.35	0.23
Residual	0.92	0.91	0.70	0.88	0.86	0.84	0.86	0.88
Cluster 2								
Means								
Actual LGPA	-0.39	-1.08	-0.37	0.15	-0.45	-1.22	-0.36	0.17
Predicted LGPA	-0.01	-0.42	-0.09	0.15	0.03	-0.35	-0.05	0.17
Residual	-0.38	-0.66	-0.28	0.00	-0.48	-0.87	-0.31	0.00
Standard Deviations								
Actual LGPA	0.92	0.86	0.98	0.94	0.95	0.81	0.94	0.92
Predicted LGPA	0.29	0.40	0.38	0.25	0.25	0.37	0.32	0.22
Residual	0.85	0.84	0.88	0.91	0.90	0.81	0.87	0.89
Cluster 3								
Means								
Actual LGPA	-0.45	-1.19	-0.62	0.15	-0.50	-1.22	-0.66	0.15
Predicted LGPA	0.00	-0.32	-0.11	0.15	0.03	-0.26	-0.06	0.15
Residual	-0.45	-0.87	-0.51	0.00	-0.53	-0.95	-0.60	0.00
Standard Deviations								
Actual LGPA	0.89	0.85	1.01	0.93	0.87	0.81	1.01	0.93
Predicted LGPA	0.30	0.38	0.38	0.27	0.28	0.37	0.35	0.25
Residual	0.85	0.83	0.88	0.89	0.83	0.83	0.90	0.89
Cluster 4								
Means								
Actual LGPA	-0.43	-1.12	-0.49	0.10	-0.50	-1.13	-0.56	0.10
Predicted LGPA	-0.14	-0.49	-0.20	0.10	-0.11	-0.45	-0.17	0.10
Residual	-0.29	-0.63	-0.30	0.00	-0.39	-0.68	-0.39	0.00
Standard Deviations								
Actual LGPA	0.89	0.84	0.94	0.96	0.87	0.77	0.97	0.97
Predicted LGPA	0.36	0.40	0.42	0.30	0.33	0.38	0.41	0.28
Residual	0.85	0.80	0.85	0.92	0.82	0.76	0.90	0.92

(continued)

TABLE 10 (continued)

	First-Year LGPA				Cumulative LGPA			
	Asian American	Black	Hispanic	White	Asian American	Black	Hispanic	White
Cluster 5								
Means								
Actual LGPA	•	-0.87	-0.07	0.06	•	-0.94	-0.16	0.05
Predicted LGPA	•	-0.60	-0.16	0.06	•	-0.49	-0.05	0.05
Residual	•	-0.26	0.08	0.00	•	-0.45	-0.11	0.00
Standard Deviations								
Actual LGPA	•	1.02	0.96	0.98	•	1.00	0.96	0.97
Predicted LGPA	•	0.48	0.47	0.30	•	0.38	0.31	0.28
Residual	•	0.99	0.92	0.93	•	0.95	0.89	0.93
Cluster 6								
Means								
Actual LGPA	•	-0.24	•	0.41	•	-0.26	•	0.49
Predicted LGPA	•	0.09	•	0.41	•	0.27	•	0.49
Residual	•	-0.33	•	0.00	•	-0.52	•	0.00
Standard Deviations								
Actual LGPA	•	0.95	•	0.98	•	0.95	•	0.92
Predicted LGPA	•	0.27	•	0.31	•	0.31	•	0.30
Residual	•	0.91	•	0.93	•	0.90	•	0.87

Within cluster ethnic group size < 30.

TABLE 11

Correlation between actual and predicted LGPA by ethnic group within cluster when LSAT alone was used to predict first-year LGPA and cumulative LGPA

	First-Year LGPA				Cumulative LGPA			
Cluster	Asian American	Black	Hispanic	White	Asian American	Black	Hispanic	White
1	0.08	0.19	0.30	0.28	0.13	0.15	0.22	0.25
2	0.37	0.27	0.43	0.26	0.33	0.22	0.38	0.24
3	0.31	0.27	0.51	0.29	0.30	0.19	0.47	0.27
4	0.31	0.35	0.43	0.31	0.33	0.28	0.36	0.29
5	•	0.28	0.33	0.31	•	0.31	0.37	0.29
6	•	0.28	•	0.32	•	0.32	•	0.33

• Within cluster ethnic group size < 30.

TABLE 12

Mean residuals for selected ethnic groups at different levels of predicted first-year LGPA and cumulative LGPA when LSAT score alone was used as predictor

		First-Year LGPA				Cumulative LGPA			
Cluster	Group	Asian American	Black	Hispanic	White	Asian American	Black	Hispanic	White
1	Lowest 25% predicted LGPA	-0.06	-0.64	0.14	0.04	-0.35	-0.76	-0.21	0.02
	Second 25% predicted LGPA	-0.21	-1.05	0.01	-0.04	-0.06	-1.36	0.15	-0.04
	Third 25% predicted LGPA	-0.10	-1.10	-0.49	0.03	-0.22	-1.16	-0.44	0.02
	Highest 25% predicted LGPA	-0.71	-1.17	-0.37	-0.02	-0.65	-1.16	-0.55	0.00
2	Lowest 25% predicted LGPA	-0.32	-0.40	-0.50	-0.01	-0.48	-0.46	-0.43	0.01
	Second 25% predicted LGPA	-0.57	-0.72	-0.10	0.03	-0.69	-1.02	-0.30	0.00
	Third 25% predicted LGPA	-0.44	-0.71	-0.23	-0.01	-0.51	-1.12	-0.25	0.01
	Highest 25% predicted LGPA	-0.22	-0.79	-0.30	-0.01	-0.25	-0.86	-0.27	-0.01
3	Lowest 25% predicted LGPA	-0.37	-0.63	-0.72	0.02	-0.46	-0.68	-0.77	0.01
	Second 25% predicted LGPA	-0.50	-1.00	-0.65	0.00	-0.52	-0.97	-0.86	0.02
	Third 25% predicted LGPA	-0.39	-0.82	-0.51	-0.02	-0.55	-1.03	-0.53	-0.02
	Highest 25% predicted LGPA	-0.55	-1.02	-0.19	0.00	-0.58	-1.14	-0.25	-0.01
4	Lowest 25% predicted LGPA	-0.14	-0.40	-0.25	0.03	-0.31	-0.45	-0.27	0.02
	Second 25% predicted LGPA	-0.22	-0.69	-0.34	0.00	-0.34	-0.66	-0.46	0.00
	Third 25% predicted LGPA	-0.42	-0.68	-0.27	-0.02	-0.43	-0.79	-0.35	-0.02
	Highest 25% predicted LGPA	-0.36	-0.74	-0.32	0.00	-0.48	-0.82	-0.47	0.00
5	Lowest 25% predicted LGPA	•	0.30	0.27	0.02	•	-0.19	-0.07	0.05
	Second 25% predicted LGPA	•	-0.56	0.21	0.02	•	-0.60	-0.15	-0.03
	Third 25% predicted LGPA	•	-0.41	0.00	-0.06	•	-0.72	-0.19	-0.05
	Highest 25% predicted LGPA	•	-0.34	-0.11	0.01	•	-0.33	-0.06	0.03
6	Lowest 25% predicted LGPA	•	-0.35	•	-0.13	•	-0.44	•	0.00
	Second 25% predicted LGPA	•	-0.35	•	0.03	•	-0.64	•	-0.17
	Third 25% predicted LGPA	•	-0.31	•	0.17	•	-0.64	•	0.12
	Highest 25% predicted LGPA	•	-0.32	•	-0.05	•	-0.41	•	0.05

• Within cluster ethnic group size < 30.

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Each group was divided into four equal sections based on predicted LGPA and the mean residual was computed separately for each section. The results are presented in Table 12. A pattern of greater over prediction among those with the highest predicted LGPAs is again found, but it is not as strong and consistent as the pattern observed when LSAT score and UGPA were used in combination. The LSAT only prediction data show negative residuals for nonwhite students across all four predicted LGPA groups almost consistently across all clusters. The only exception is black and other Hispanic students in Cluster 5 when first-year LGPA is the criterion. These data again suggest that LSAT alone over-predicts academic performance for nonwhite students more than does LSAT score used in combination with UGPA. The relationship between predicted LGPA and residual is observed within each nonwhite group even though some groups earned substantially higher LGPAs than other groups. Finally, the data again show that the amount of over-prediction is slightly larger when the criterion is cumulative LGPA than when it is first-year LGPA.

Comparisons between men and women using LSAT scores and UGPA combined as predictors. Table 13 shows means and standard deviations of the actual LGPA, the predicted LGPA, and the residuals for male and female students separately by law school cluster when both LSAT and UGPA were used in combination to predict first-year LGPA and cumulative LGPA. The regression models were built using data only from male students. Those models were applied to data from both male and female students.

Mean residuals for women were examined to determine whether the male based models fit the data for female students equally well. The mean residuals for women were approximately equal to zero across each of the clusters. They also were approximately equal to zero regardless of whether first-year LGPA or cumulative LGPA was used as the criterion. The standard deviations of the residuals were approximately the same for women as they were for men. There is no evidence in these data of systematic over-prediction or under-prediction of LGPA for women when models based on male data are used to estimate the predictions.

TABLE 13
Means and standard deviations of the actual LGPA, the predicted LGPA, and residuals for men and women when both LSAT and UGPA were used as predictors

	First-Year LGPA		Cumulative LGPA	
	Men	Women	Men	Women
Cluster 1				
Means				
Actual LGPA	0.08	-0.10	0.03	-0.06
Predicted LGPA	0.08	0.02	0.03	-0.02
Residual	0.00	-0.12	0.00	-0.04
Standard Deviations				
Actual LGPA	0.98	1.01	0.98	1.00
Predicted LGPA	0.48	0.55	0.48	0.55
Residual	0.85	0.86	0.86	0.84
Cluster 2				
Means				
Actual LGPA	0.05	-0.06	0.02	-0.03
Predicted LGPA	0.05	0.00	0.02	-0.02
Residual	0.00	-0.06	0.00	-0.01
Standard Deviations				
Actual LGPA	0.99	1.00	0.97	1.01
Predicted LGPA	0.44	0.49	0.43	0.48
Residual	0.89	0.87	0.87	0.86
Cluster 3				
Means				
Actual LGPA	0.03	-0.04	0.00	-0.01
Predicted LGPA	0.03	-0.01	0.00	-0.03
Residual	0.00	-0.03	0.00	0.02
Standard Deviations				
Actual LGPA	0.99	1.01	1.00	0.99
Predicted LGPA	0.51	0.54	0.52	0.56
Residual	0.85	0.87	0.86	0.84
Cluster 4				
Means				
Actual LGPA	0.02	-0.02	-0.02	0.02
Predicted LGPA	0.02	0.03	-0.02	0.01
Residual*	0.00	-0.06	0.00	0.01
Standard Deviations				
Actual LGPA	0.99	1.01	0.99	1.01
Predicted LGPA	0.44	0.48	0.45	0.51
Residual	0.88	0.89	0.88	0.89
Cluster 5				
Means				
Actual LGPA	0.02	-0.03	-0.02	0.00
Predicted LGPA	0.02	0.03	-0.02	0.01
Residual*	0.00	-0.07	0.00	-0.01
Standard Deviations				
Actual LGPA	0.96	1.06	0.97	1.03
Predicted LGPA	0.41	0.45	0.41	0.45
Residual	0.87	0.97	0.88	0.94
Cluster 6				
Means				
Actual LGPA	-0.06	0.06	-0.07	0.07
Predicted LGPA	-0.06	-0.03	-0.07	0.00
Residual	0.00	0.09	0.00	0.07
Standard Deviations				
Actual LGPA	1.01	0.98	0.99	0.99
Predicted LGPA	0.46	0.47	0.55	0.59
Residual	0.90	0.85	0.83	0.84

* Residuals may differ from the difference calculated from actual and predicted numbers presented in this table with two decimal places due to rounding.

The correlations between predicted LGPA and actual LGPA are shown by law school cluster for men and women for each of the criterion variables in Table 14. The correlations were obtained within cluster after pooling data across schools. Consistent with the approximately zero mean residuals, the correlations between actual and predicted LGPA were essentially the same for women as for men. They also were essentially the same regardless of which criterion was used in the model. That is, LSAT scores and UGPA predicted cumulative LGPA about the same as they predicted first-year LGPA for both women and men.

TABLE 14

Correlations between actual and predicted LGPA by law school cluster and sex when LSAT and UGPA combined were used to predict first-year LGPA and cumulative LGPA

	First-Year LGPA		Cumulative LGPA	
Cluster	Men	Women	Men	Women
Cluster 1	0.49	0.53	0.48	0.54
Cluster 2	0.44	0.49	0.44	0.53
Cluster 3	0.51	0.51	0.52	0.53
Cluster 4	0.44	0.47	0.46	0.48
Cluster 5	0.42	0.39	0.42	0.41
Cluster 6	0.45	0.50	0.55	0.54

Finally, both women and men were divided into four approximately equal sections based on their predicted LGPAs. Mean residuals for each section were then computed. Results from this analysis are presented in Table 15. There is no suggestion in these data that the magnitude of the residual is related to the predicted LGPA. That is, the residual is approximately equal to zero regardless of which level of predicted LGPA is examined. It also is approximately equal to zero regardless of which criterion is examined.

TABLE 15

Mean residuals for men and women at different levels of predicted first-year LGPA and cumulative LGPA when both LSAT score and UGPA were used as predictors

		First-Year LGPA		Cumulative LGPA	
Cluster	Group	Men	Women	Men	Women
1	Lowest 25% predicted LGPA	0.04	-0.10	0.04	-0.04
	Second 25% predicted LGPA	0.05	-0.15	0.04	-0.07
	Third 25% predicted LGPA	0.01	-0.16	0.01	-0.03
	Highest 25% predicted LGPA	-0.09	-0.08	-0.09	-0.02
2	Lowest 25% predicted LGPA	0.04	-0.07	0.04	-0.14
	Second 25% predicted LGPA	-0.02	-0.09	-0.02	-0.02
	Third 25% predicted LGPA	-0.03	-0.05	-0.01	0.04
	Highest 25% predicted LGPA	0.01	-0.03	-0.01	0.08
3	Lowest 25% predicted LGPA	-0.01	-0.04	0.00	0.03
	Second 25% predicted LGPA	0.03	0.05	0.04	0.05
	Third 25% predicted LGPA	0.01	-0.03	0.01	0.03
	Highest 25% predicted LGPA	-0.04	-0.10	-0.04	-0.03
4	Lowest 25% predicted LGPA	0.00	-0.02	0.01	0.07
	Second 25% predicted LGPA	0.00	-0.05	0.01	0.02
	Third 25% predicted LGPA	-0.02	-0.11	-0.05	-0.04
	Highest 25% predicted LGPA	0.02	-0.04	0.03	0.01
5	Lowest 25% predicted LGPA	-0.02	0.06	-0.01	0.04
	Second 25% predicted LGPA	0.01	-0.13	0.01	-0.02
	Third 25% predicted LGPA	-0.01	-0.11	0.02	-0.15
	Highest 25% predicted LGPA	0.01	-0.09	-0.03	0.07
6	Lowest 25% predicted LGPA	0.03	0.07	0.07	0.12
	Second 25% predicted LGPA	-0.04	-0.04	-0.10	-0.01
	Third 25% predicted LGPA	-0.03	0.29	0.01	0.24
	Highest 25% predicted LGPA	0.05	0.03	0.03	-0.04

Summary and Conclusions

This study addressed several fundamental questions about the utility of using LSAT scores and UPGA for predicting law school academic performance beyond the first year. A strength of this study was the availability of national law school data from the *LSAC Bar Passage Study* for analyses. A potential weakness is that the data are available for one entering class only. Typically, the LSAC reports correlation coefficients derived from combining predictor and criterion data across three law-school classes. The LSAC practice provides more stability in estimates of the regression weights than is likely to be obtained when only one class is included. A second potential problem with this study is the loss of data from those first year students who did not complete law school and therefore did not have a cumulative LGPA. Eliminating data from those students is inherent in the design necessary to compare the strength of the relationship between the predictors and cumulative LGPA with that of the predictors and first-year LGPA. It is also consistent with the approach taken in earlier studies of the issues addressed herein. Comparison of the mean correlation coefficients obtained from the sample used in this study with the mean reported in the most recent LSAC three year national validity summary report were nearly identical, suggesting little loss in generalizability as a consequence of the restricted analysis sample. A third weakness is that the criterion variable cumulative LGPA cannot be disaggregated into first, second, and third year LGPA. This is because the majority of law schools that participated in the *LSAC Bar Passage Study* reported that they do not maintain LGPA separately by year and could not provide the data in that way. As a consequence, the results obtained from the sample of law students used in this study are not directly comparable to some of the specific results reported in the earlier studies described in the introduction to this report. Even so, comparisons of general patterns and results can be made and are referenced throughout this report.

The major finding from this study is that LSAT score and UGPA, when used in combination, were related to cumulative LGPA at approximately the same level as they were related to first-year LGPA. This

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finding is partly a consequence of the overlap between the two criteria. That is, first-year LGPA is included in the calculated cumulative LGPA. Even so, the multiple correlations between the predictors and each of the criteria is so similar that there is nothing in the data to suggest that the results would have been different for this cohort of law school students if the first year LGPA data could have been separated from the grades earned in subsequent years.

A second important finding from this study is that the patterns of predictive accuracy for different ethnic and sex groups do not seem to change regardless of whether the criterion is first-year LGPA or cumulative LGPA. Although the patterns are similar regardless of the criterion considered, the study also noted the presence of between-group differences among different ethnic groups. In particular, there is an overall tendency for test scores and undergraduate grades to over-predict law school performance for nonwhite law students. The over-prediction was greater when LSAT score was used alone than when it was used in combination with UGPA. The data also showed that when used in combination, the two predictors tended to over-predict for nonwhite students with higher predicted LGPAs to a greater extent than it over-predicted for those with lower predicted LGPAs.

A potential concern about the use of LSAT scores and UGPAs in the law school admission process is that their predictive power is primarily limited to academic performance in the first year of law school. The data analyzed in this study do not support that concern. That is, the utility of the two predictors is shown to extend to the cumulative academic performance through three years of law school. Even so, the importance placed on these variables in the admission process must be kept in perspective. While this study extended the criterion beyond first-year grades, it did not extend it beyond academic performance as measured by law school grades. As importantly, it did not address the interpretation of correlation coefficients of the magnitude reported in this study and others cited herein. That is, although the correlation coefficients appear to be similar regardless of the criterion used (i.e., first-year LGPA or cumulative LGPA), the amount of variance left unexplained is substantial. The modest size of the correlation coefficients is partly a statistical consequence of range restriction. It also is partly a consequence of the limited role that the skills assessed by LSAT score and prior academic achievement play in achieving high course grades. (See Wightman, L.F. (1999) for a more extensive treatment of this topic.) Equally importantly, law school grades are only one outcome of interest and value in selecting law school students, but they are the only outcome for which validity evidence for the use of LSAT scores and UPGA are examined in this study. Additional research aimed at defining and quantifying additional outcomes for the admission process is important and should be undertaken. As an aside, LSAT scores and grades in law school are predictive of relevant performance beyond academic performance in law school, such as performance on the bar examination, but that issue is beyond the scope of this study. See Linn, 1982 p. 283, Wightman, 1998 for research addressing that issue. On-going studies to help define the appropriate role for test scores and grades in studying outcomes beyond academic achievement in law school should also be encouraged.

References

Anthony, L. C., Duffy, J. R., & Reese, L. M. (in press). *Predictive validity of the LSAT: A national summary of the 1997-1998 correlation studies* (Technical Report No. 99-01). Newtown, PA: Law School Admission Council.

Anthony, L. C., & Harris, V. F. (1999). *Predictive validity of the LSAT: A national summary of the 1995-1996 correlation studies* (Technical Report No. 97-01). Newtown, PA: Law School Admission Council.

Anthony, L. C., Reese, L. M., & Pashley, P. J. (in press). *Analysis of differential prediction of law school performance by ethnic subgroups* (Technical Report 98-02). Newtown, PA: Law School Admission Council.

Carlson, A. B., & Werts, C. E. (1976). Relationships among law school predictors, law school performance, and bar examination results. In Law School Admission Council, *Reports of LSAC sponsored research: Volume I, 1949-1969* (LSAC Report No. 76-1, pp. 264-292). Princeton, NJ: Law School Admission Council.

Harris, V. F., Roussos, L. A., & Pashley, P. J. (in press). *Analysis of differential prediction of law school performance by gender subgroups* (Technical Report 98-03). Newtown, PA: Law School Admission Council.

Johnson, A. P., & Olsen, M. A. (1976). Comparative three-year and one year validities of the Law School Admission Test at two law schools. In Law School Admission Council, *Reports of LSAC sponsored research: Volume I, 1949-1969* (LSAC Report No. 52-2, pp. 264-292). Princeton, NJ: Law School Admission Council.

Lin, P., & Humphreys, L. G. (1977). Predictions of academic performance in graduate and professional school. *Applied Psychological Measurement, 1*(2), 249-257.

Linn, R. L. (1982). Admissions testing on trial. *American Psychologist*, 37 (3), 279-291.

Linn, R. L., Harnish, D.L., & Dunbar, S. B. (1981). Validity generalization and situational specificity: An analysis of the prediction of first-year grades in law school. *Applied Psychological Measurement*, 5, 281-289.

Linn, R. L., & Hastings, C.N. (1984). A meta analysis of the validity of predictors of performance in law school. In Law School Admission Council, *Reports of LSAC sponsored research: Volume IV, 1978-1983* (LSAC Report No. LSAC-83-1, pp. 507-544). Princeton, NJ: Law School Admission Council.

Powers, D. E. (1984). Predicting law school grades for minority and nonminority students: Beyond the first-year average. In Law School Admission Council, *Reports of LSAC sponsored research: Volume IV, 1978-1983* (pp. 264-292). Newtown, PA: Law School Admission Council.

Powers, D. E. (1977). Comparing predictions of law school performance for Black, Chicano, and White law students. In Law School Admission Council, *Reports of LSAC sponsored research: Volume III, 1975-1977 (LSAC Report No. LSAC-77-3, pp. 721-755). Newtown, PA: Law School Admission Council.*

Schrader, W.B. (1977). Summary of law school validity studies, 1948-1975. In Law School Admission Council, *Reports of LSAC sponsored research: Volume III 1975-1977* (LSAC Report No. LSAC-76-8, pp. 519-550). Newtown, PA: Law School Admission Council.

Schrader, W.B., & Pitcher, 1976. (a) Prediction of law school grades for black American law students. In Law School Admission Council, *Reports of LSAC sponsored research: Volume II, 1970-1974* (Report No. LSAC-73-6, pp. 451-494). Princeton, NJ: Law School Admission Council.

Schrader, W.B., & Pitcher, 1976. (b) Prediction of law school grades for Mexican American and Black American students. In Law School Admission Council, *Reports of LSAC sponsored research: Volume II, 1970-1974* (LSAC Report No. LSAC-74-8, pp. 715-742). Princeton, NJ: Law School Admission Council.

Wightman, L.F. (in press) Standardized testing and equal access: A tutorial. In K. Hakuta and J. Jones, Eds., *Racial dynamics in higher education*.

Wightman, L.F. (1998). *LSAC National longitudinal bar passage study*. Newtown, PA: Law School Admission Council.

Wightman, L.F. (1996). *Women in Legal Education: A comparison of the law school performance and law school experiences of women and men*. Newtown, PA: Law School Admission Council.

Wightman, L.F. (1993). *Predictive validity of the LSAT: A national summary of the 1990-92 correlation studies* (Research Report 93-05). Newtown, PA: Law School Admission Council.

Wightman, L.F., & Muller, D. (1990). *An analysis of differential validity and differential prediction for black, Mexican American, Hispanic, and white law school students* (Research Report 90-03). Newtown, PA: Law School Admission Council.

Winterbottom, J. A., Pitcher, B., & Miller P. Van R. (1976). Report of the re-administration of the LSAT to third-year students. In Law School Admission Council, *Reports of LSAC sponsored research: Volume I, 1949-1969* (LSAC Report No. LSAC-63-3, pp. 255-266). Princeton, NJ: Law School Admission Council.

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